

An underwater photograph showing a variety of marine life, including a yellow and black striped fish, a white fish, and a pinkish fish, swimming among a large amount of plastic waste. The waste includes bottle caps, a green plastic bottle, and other debris. A semi-transparent grey box is overlaid on the center of the image, containing the title and event information.

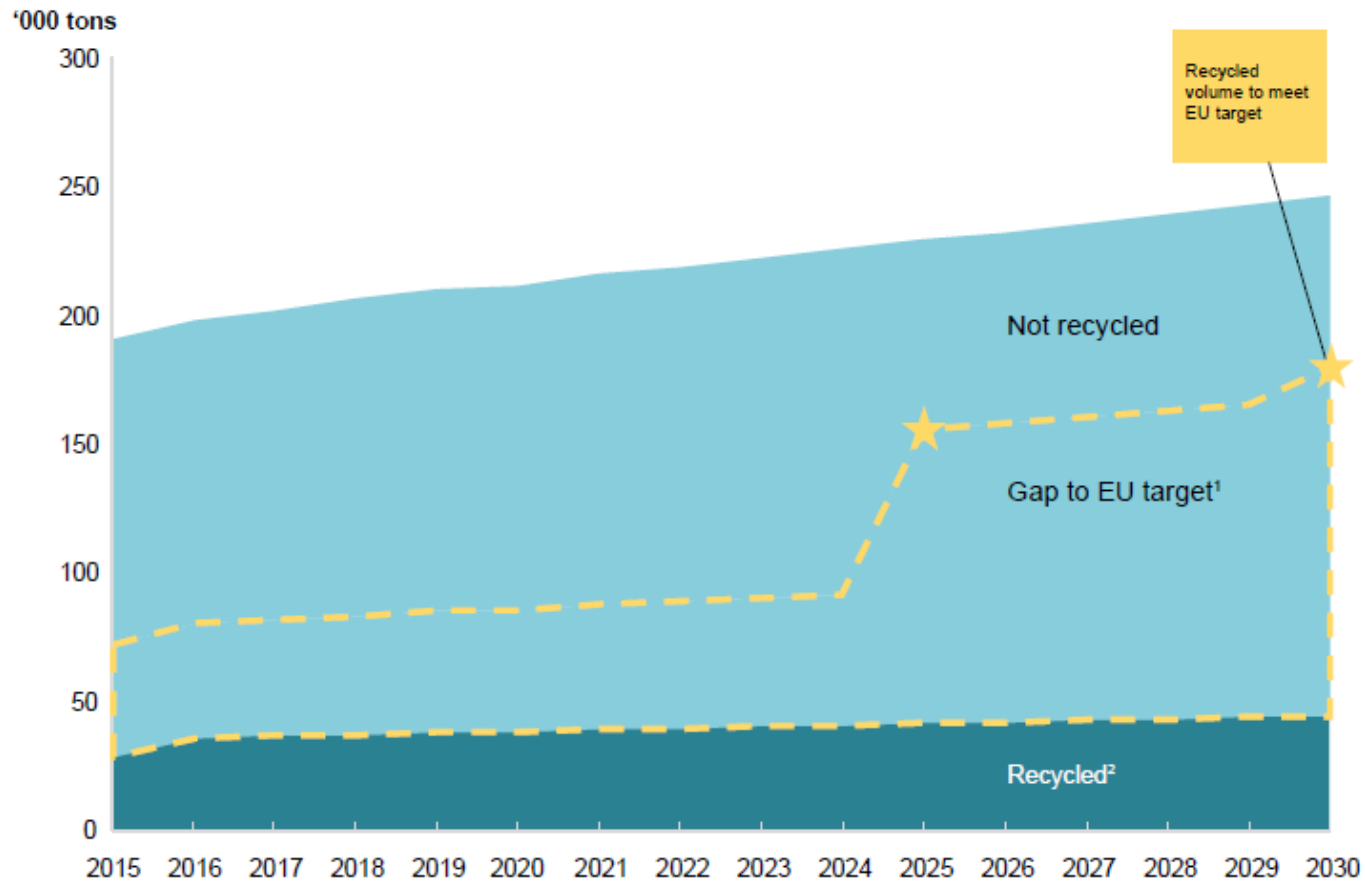
Circular packaging – The role of EPR in closing the loop

DAKOFA conference – Stephanie Hubold, QVARTZ

February 27th, 2019

An uphill battle: To meet the EU 2030 target of 55%, a recent report found that Denmark must triple the amount of plastics packaging recycled

Recycling rate and volumes for plastics packaging, thousand tons



1 New EU legislation from 2018 obliges member states to recycle 50% of plastics packaging waste in 2025 and 55% in 2030

2 Recycling rate in 2015 was 30.5%. Based on expert interviews the team assumes the rate of actual recycled plastics to be 50% of plastics collected for recycling, i.e. ~ 15% for 2015 (36%/18% for 2016). [This footnote was shortened and modified from original report.]

2 | Source: "The New Plastics Economy" (2019) – McKinsey & Co., Innovation Fund Denmark

Agenda



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Circular economy – here to stay

2

Circular packaging – innovation at scale

3

EPR – can it help to close the loop?

Leading global companies across sectors are embarking on circular economy transition



“ Our ambition is to become people and planet positive by 2030 while growing the IKEA business [...] aiming for **all IKEA products and packing materials to be based on renewable and/or recycled materials by 2030**

”

15% of turnover will come from circular revenues [by 2020]



“ **We’re going deeper to pioneer a closed-loop supply chain, where products are made using only renewable resources or recycled material [...]**

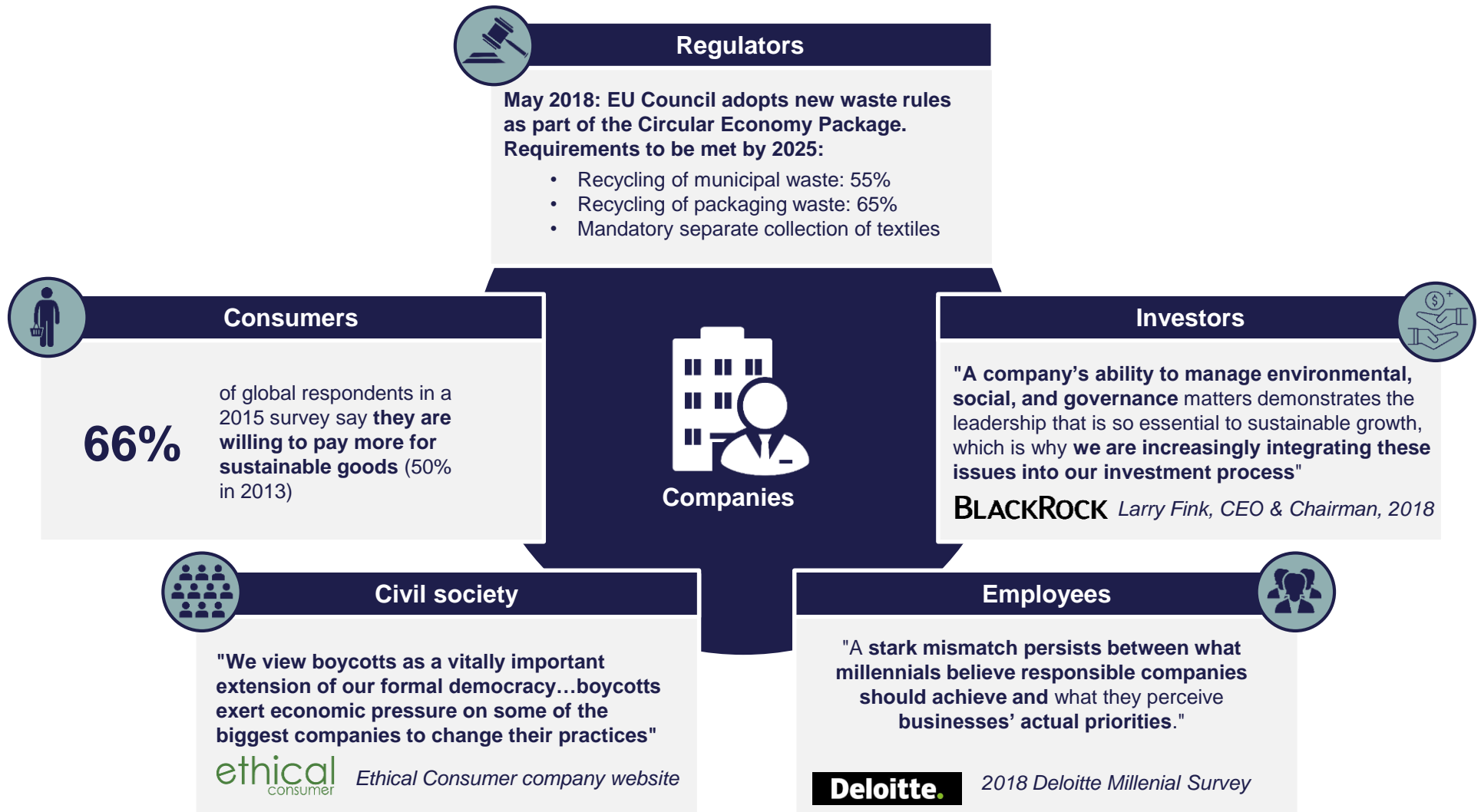
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Each time Renault implements a closed loop, it internalises its recycling margins. [...] **The environmental benefits are unquestionable, as are the economic and competitiveness benefits**

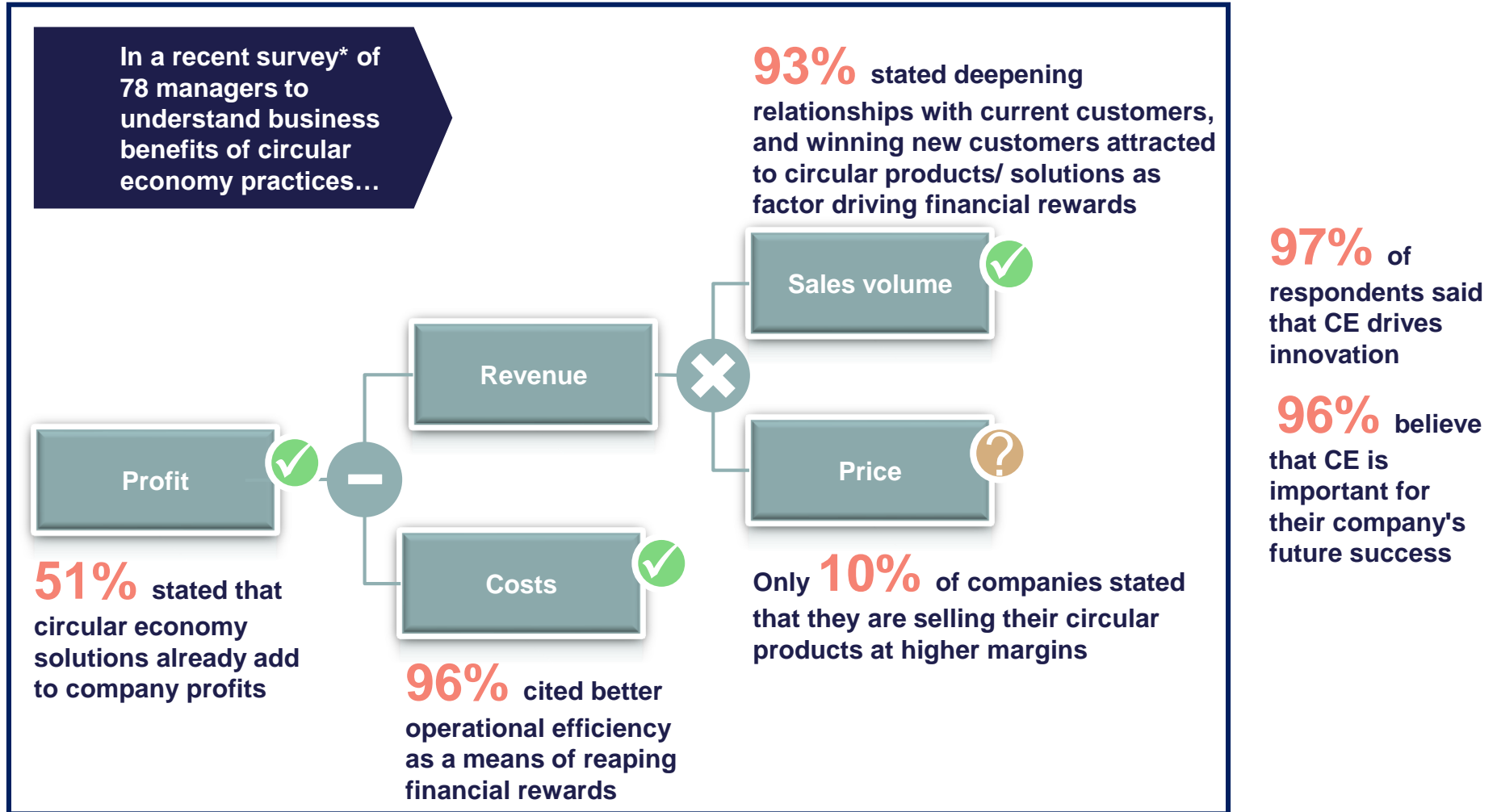


“ **We are committed to taking a leadership role in driving progress towards a circular plastics economy. [...]** all of our plastic packaging will be designed to be fully reusable, recyclable or compostable by 2025

Stakeholder preferences are putting increasing pressure on companies to transition to sustainable/circular models



Circular economy approaches contribute to driving innovation, improving operational efficiency, and developing lasting customer relationships



Circular economy has unstoppable momentum as priority for policymakers in EU



EU policymakers are setting targets on waste management, and increasing budget for circular economy (CE)

Jan 2018 – European Commission...

- Updated **H2020** work programme 2018-2020 and allocated **budget of EUR 1 billion for CE research and innovation**
- Released **new plastics strategy** with target of **100% reusable or recyclable plastic packaging by 2030***

"This transition towards a more circular economy is about reshaping the market economy and improving our competitiveness"

– Jyrki Katainen, Vice-President European Commission

May 2018 – EU Council adopts new waste rules as part of the Circular Economy Package:

- **Recycling of municipal / packaging waste:** 55% by 2025 / 65%**
- **Mandatory separate collection:** **Hazardous** household waste by 2022, **bio-waste** by 2023, **textiles** by 2025
- **Phasing out landfilling:** Landfilling of municipal waste to be reduced to 10% or less by 2035
- **EPR rules** require producers to cover the costs for collection, transport and treatment, information/awareness raising, data collection and reporting

Dec 2018 – Provisional agreement on single-use plastics by European Parliament and Council of the European Union:

- Provisional political agreement on the new measures addressing single-use plastics proposed by the Commission, targeting the 10 plastic products most often found on our beaches as well as abandoned fishing gear. **Market restriction for cotton bud sticks, single-use cutlery, plates, stirrers, straws from 2021.**
- **EPR schemes complement the ban** for selected categories, e.g. manufacturers pay for cost of waste mgmt., clean up and awareness-raising measures for certain single-use plastics

"[The deal] will reduce the environmental damage bill by €22 billion"
– Frédérique Ries, Belgian MEP

* First legislative proposal presented on May 28 targets reduction of single-use plastics; subsequently provisionally adopted (with changes) on Dec 19th

7 | ** Individual targets set for separate packaging materials, a few of which are lower than 65% (70%). E.g. for plastic packaging waste 50% (55%)

Source: European Commission website and press release May 22, 2018; Politico Pro; letsrecycle.com

Denmark has released a national circular economy strategy in 2018, and a new agreement to reduce plastic pollution this month



September 2018

Danish Ministry of Business and Ministry of Environment and Food launch new national circular economy strategy, with DKK 116 mn for 15 initiatives across 6 action areas:

- Strengthen businesses as driver of the transition
- Support digital enablement/data use
- Foster circular design/standards
- Leverage public procurement
- Develop a market for secondary materials
- Advance circular value creation in the built environment and from biomass

3. Promote circular economy through design
4. Change consumption patterns through circular economy
5. Create a proper functioning market for waste and recycled raw materials
6. Get more value out of buildings and biomass

Recycling

product design, new business models, and increased recycling. Many public institutions have started working actively to promote circular economy in their building and procurement activities. From 1st we will increase a relatively large proportion of our waste, we become better and better at recycling.

Also, Denmark is among those countries that send the lowest volumes of waste to landfill.

Competition exposure of the waste management sector

In September 2016 the government launched a Circular Strategy providing, among others, better collection of waste. Thus, the Utilities Strategy constitutes a key contribution to creating a more

The strategy for the Circular Economy, must be seen both as a challenge and as a chance. The Danish waste management sector has high municipal investments in waste treatment plants and the local authorities' position to manage household waste and commercial waste to these plants have created an incentive to fill up the plants at the expense of diverting more waste for recycling.

The proposal of the Utilities Strategy regarding better access to regulate water will break down the barriers to establishing large sorting plants. This will increase the opportunities of recycling waste. In addition, the proposal aiming to abolish citizens' duty of using municipal services will make it easier for entrepreneurs to establish take-back schemes and pursue new innovative solutions of recycling, etc. of the below flow.



MINISTRY OF BUSINESS AND GROWTH
DENMARK


Ministry of Environment
and Food of Denmark

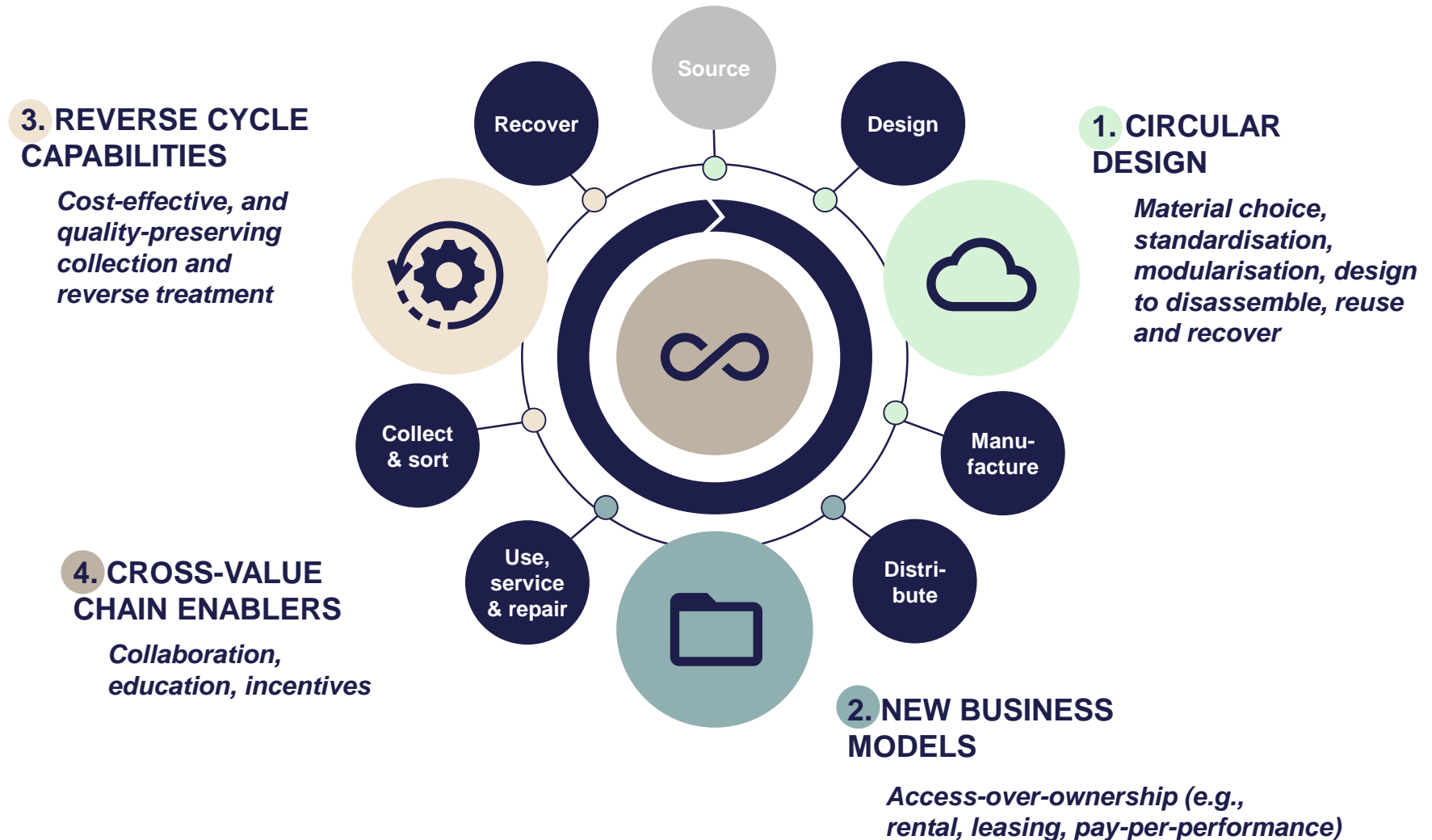
February 2019 – Parliament concludes a new agreement to reduce plastic pollution and promote circular economy through 38 initiatives, in which EPR for packaging features*

"Med strategien ønsker vi at skabe bedre rammer for, at danske virksomheder kan udvikle og eksportere cirkulære løsninger. **Det skal skabe vækst og jobs i Danmark, samtidig med at understøtte en grøn og bæredygtig udvikling.[...]**"

– Rasmus Jarlov, Erhvervsminister

* Denmark is one of three EU countries with no EPR compliance schemes in place currently. Along with Hungary and Croatia. However, Denmark operates a well-functioning deposit-return system on bottles and manages household and T&I waste through local authorities and private recyclers

Successful circular solutions take an integrated perspective focusing on four key building blocks



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Circular packaging – New Plastics Economy Initiative identified three strategies to transform the global plastics packaging market



World Economic Forum and Ellen MacArthur Foundation
The New Plastics Economy – Catalysing action
(2017, www.newplasticseconomy.org).



Key industry players started to act and collaborate – Example: New Plastics Economy Initiative

EXAMPLE

New Plastics Economy Initiative (NPEC) – Global Commitment



About

- A global initiative led by the Ellen MacArthur Foundation that unites **businesses and governments** to "rethink and redesign the future of plastics, **starting with packaging**"

Global Commitment – what is it?

- The most recent and widespread project of the initiative, **launched in October 2018 in collab. with the UN**, setting ambition **targets for business to reach by 2025**
- **Businesses*** have committed to the following by 2025:
 - **100% of plastic packaging to be reusable, recyclable, or compostable**
 - Take action to eliminate problematic or unnecessary plastic packaging
 - Take action to move from single-use towards reuse models
 - Set ambitious 2025 recycled content targets

293 signatories...

Selected examples include:



These 9 companies are also the **core partners** to the New Plastics Economy initiative in general

...signatories also incl. local and national governments, financial and academic institutions, NGOs, etc.

*These business include: Packaged goods companies, retailers, hospitality and food service companies and packaging producers. Separate commitments exist for government or endorser signatories

Source: New Plastics Economy website

Key industry players started to act and collaborate – Example: Alliance to End Plastic Waste

EXAMPLE

Alliance to End Plastic Waste



About

- A not-for-profit organization that has launched a **\$1.5b effort**, funded by its members, **to end plastic waste** over next 5 years
- Working alongside the World Business Council for Sustainable Development as a founding strategic partner
- They see 4 key areas for investment
 - **Infrastructure development** to collect and manage waste and increase recycling;
 - **Innovation** to advance and scale new technologies that make recycling and recovering plastics easier and create value from all post-use plastics;
 - **Education and engagement** of governments, businesses, and communities to mobilize action; and,
 - **Clean up of** concentrated areas of plastic waste already in the environment, particularly the major conduits of waste, like rivers, that carry land-based plastic waste to the sea.

28 global members...

Selected examples include:



Plus partnerships with financial institutions, government, NGOs

Incumbents and start-ups alike are innovating on new packaging solutions

EXAMPLE



Snap Pack

- Uses innovative glue technology to mitigate use of plastic in beverage multi-packs



76%

reduction in plastic use compared to previous multipacks

1200

tonnes of plastic saved annually after converting 4-, 6- and 8-packs



Leading the sustainable plastic revolution

Loop™-Branded PET

- A Canadian technology recycling start-up, founded in 2015
- Through a zero energy process, they can breakdown plastic waste and turn it into '**high-purity, food grade PET plastic**' – free from dyes, additives, colours and other impurities and made from 100% re-used materials.
- To date, they have raised > \$20m by founders and investors and developed an innov. hub and a U.S pilot plant

100%

from reused materials

6

multi-year supply agreements:
Danone, Coca-Cola,
L'Occitane, L'Oreal,
Nestlé, Pepsico



Bottles for life

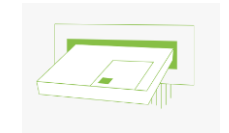
- A UK company founded in 2012 that offers refillable solutions for laundry home and dishwashing liquids

How it works

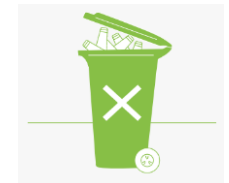
1. ORDER FULL BOTTLES (FOR LIFE)



2. REFILLS COME THROUGH THE LETTERBOX*



3. NO MORE PLASTIC BOTTLES



Up to 97.5% less waste

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EPR – can it help to close the loop?

EPR is already in place in most EU countries

EXTENDED PRODUCER RESPONSIBILITY (EPR)

What is it?

- An environmental policy approach in which a **producer's responsibility** for a product is **extended to the post-consumer stage** of a product's life cycle – OECD Def.

For what purpose?

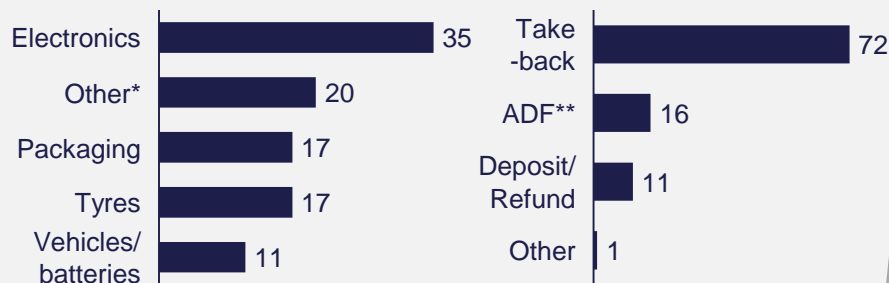


Provide incentives for manufacturers to **design resource-efficient and low-impact products**



Ensure **effective end-of-life collection**, environmentally-sound treatment of collected products and **improved reuse and recycling**

Global EPR schemes share by product type and policy, All schemes up to 2015



* "Other" includes used oil, paint, pesticides and chemicals, appliances and other less common products. ** ADF = Advanced disposal fee - a product charge/fee levied at the point of sale, i.e. to fund recycling



EXAMPLE



Who are they?

- Formerly Eco-Emballages, they are a **government-endorsed PRO** (Producer Responsibility Organization) for household packaging waste in France, founded in 1992 as a response to a packaging decree issued that same year
- They connect +50,000 companies with consumers to ensure end-of-life of the products producers place on the French market

How does their EPR scheme work?

- Citeo work across the entire waste value cycle incl. activities within eco-design, collection, sorting and raising awareness
- They are **transitioning towards eco-modulated fees** (2018-2022), whereby producers are rewarded and/or penalized according to the environmental impact of their packaging (e.g. a 50% penalty is applied to specific packaging which cannot be recycled or which presents features that hamper the recycling process)

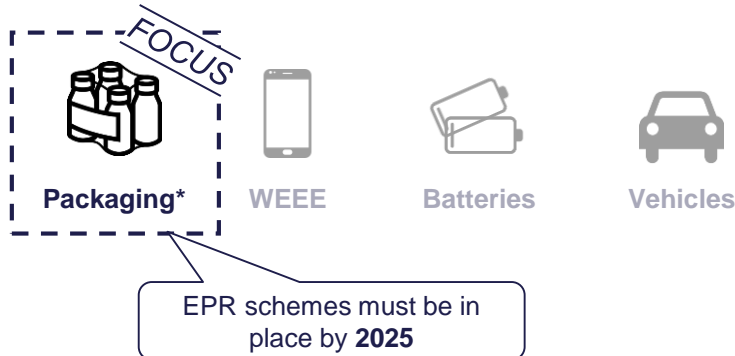
EPR obligations have been laid out in recent EU directives for producers to cover costs along the waste value cycle

NEW WASTE RULES – PACKAGING

...Adopted by EU Council as part of 'CE Package' in May 2018
(with 2 years for member states to transpose into natl legislation)

Producers of...

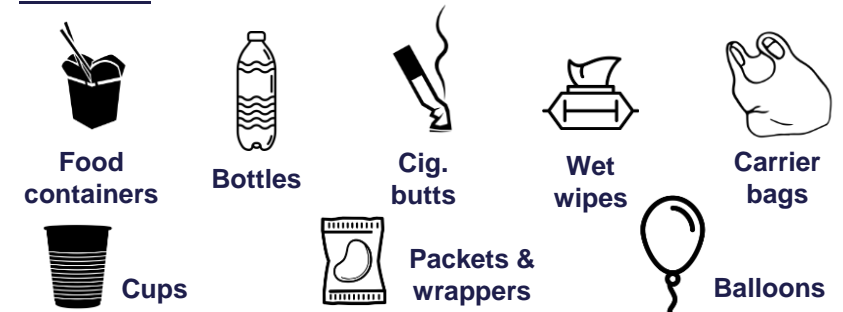
WHO IS RESPONSIBLE?



SINGLE-USE PLASTICS

...Provisionally agreed by European Parliament and Council of the EU as part of 'New Plastics Strategy' in Dec 2018

Producers of...



...Plus producers of fishing gear (NB: cutlery, straws, balloon sticks and cotton buds proposed to be completely banned rather than reduced)

Producers must cover the cost of...

FOR WHAT?

- **Separate collection/acceptance of packaging waste** and its subsequent **transport and treatment**
- **Providing adequate info and awareness raising** to waste holders (consumers or municipalities) i.e. info on:
 - Waste prevention measures, re-use centres, take-back and collection systems, and the prevention of littering
- **Data gathering and reporting of products** placed on market

Producers must cover the cost of...

- **Collection of waste** consisting of the above plastics and subsequent **transport and treatment incl. cost to clean up litter**
- **Awareness raising activities** for consumers incl.
 - Available re-use systems and waste mgmt. options
 - Best practice in waste mgmt.
 - Impact of littering/inappropriate waste disposal

* Packaging is defined as all products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer. It consists of sales packaging, grouped packaging or transportation packaging
Source: Apr 27 Directive of EU Parliament/Council amending Directive 94/62/EC on packaging and packaging waste; Apr 27 Directive of EU Parliament/Council amending Directive 2008/98/EC on waste; 28 May EU Commission Directive on reduction of [...] plastics products

Designed well, EPR can help to...

NOT COMPREHENSIVE

...Ensure 'end-of-life' collection, reuse and recycling – at quality and scale

...Support development of markets for secondary raw materials

...Encourage circular principles

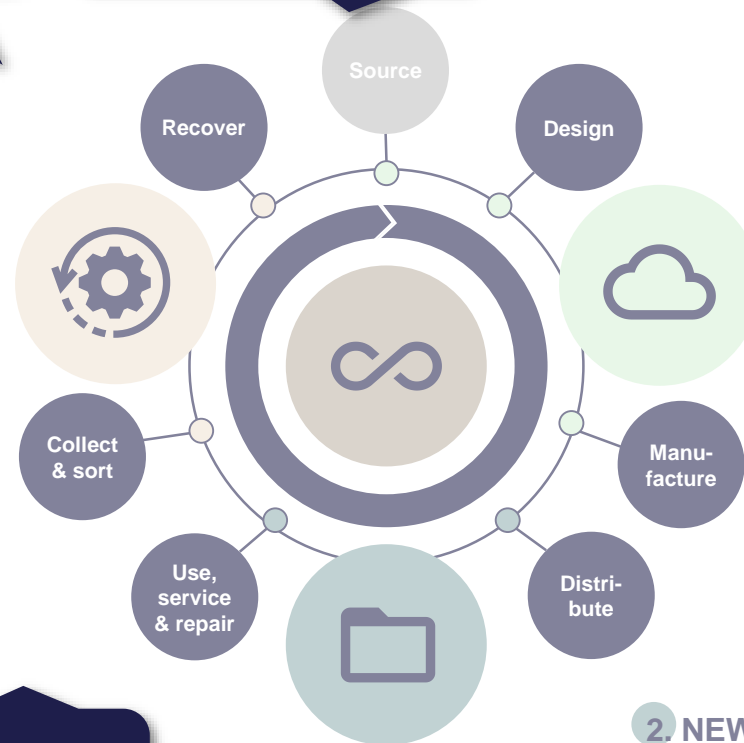
3. REVERSE CYCLE CAPABILITIES

Cost-effective, and quality-preserving collection and reverse treatment

4. CROSS-VALUE CHAIN ENABLERS

Collaboration, education, incentives

...Contribute to education and awareness raising



1. CIRCULAR DESIGN

Material choice, standardisation, modularisation, design to disassemble, reuse and recover

2. NEW BUSINESS MODELS

Access-over-ownership (e.g., rental, leasing, pay-per-performance)

Things to consider in EPR design

- Harmonization
- Full cost coverage
- Differentiated fees incentivizing circular principles (eco-design, waste hierarchy)
- Clear responsibilities
- Reporting and monitoring