REDUCING PLASTIC WASTE IN CANADA

Funded by the European Union

May 5, 11:00 – 12:30 EST

Roadmaps to circularity for flexible packaging in Europe

REDUCING PLASTIC WASTE IN CANADA

Funded by the European Union

Presentations by

Graham Houlder, CEFLEX,

Niels Van Marie, KIDV

Adam Herriott, UK WRAP

George Mcloughlin, Ellen Mac Arthur Foundation

CEFLEX

A CIRCULAR ECONOMY FOR FLEXIBLE PACKAGING

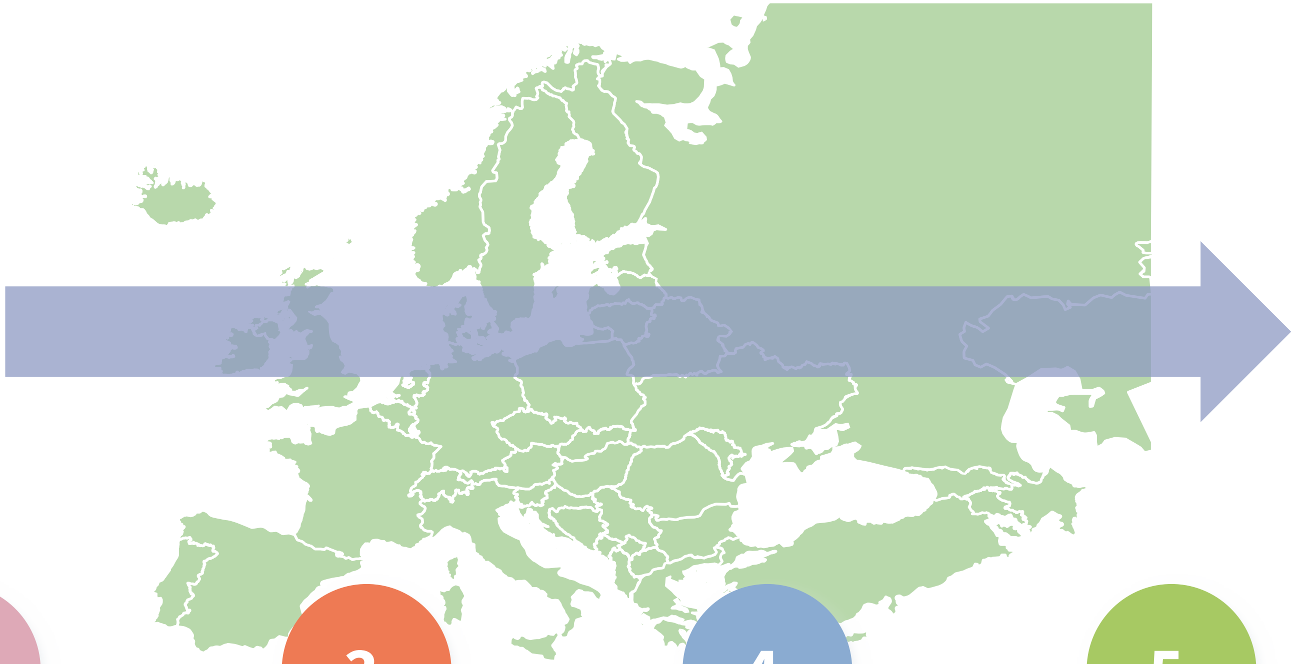
Roadmaps for flexible packaging in a demand driven circular economy in Europe

5th May 2022

Graham Houlder, CEFLEX Packaging Coordinator

CEFLEX: a critical mass to make a circular economy for flexibles happen

Initiative began in December 2016 with **20** stakeholders



Today

- **190+** stakeholders
- In Europe alone employ **500,000** people in **5,450** locations
  At more than **1,800** production sites
- Combined global turnover of over **€1.3 Trillion**

1. Material Producers
2. Film Producers and Packaging Converters
3. Brand Owners and Retailers
4. Waste Collectors, Sorters and Recyclers
5. Flexible packaging ecosystem

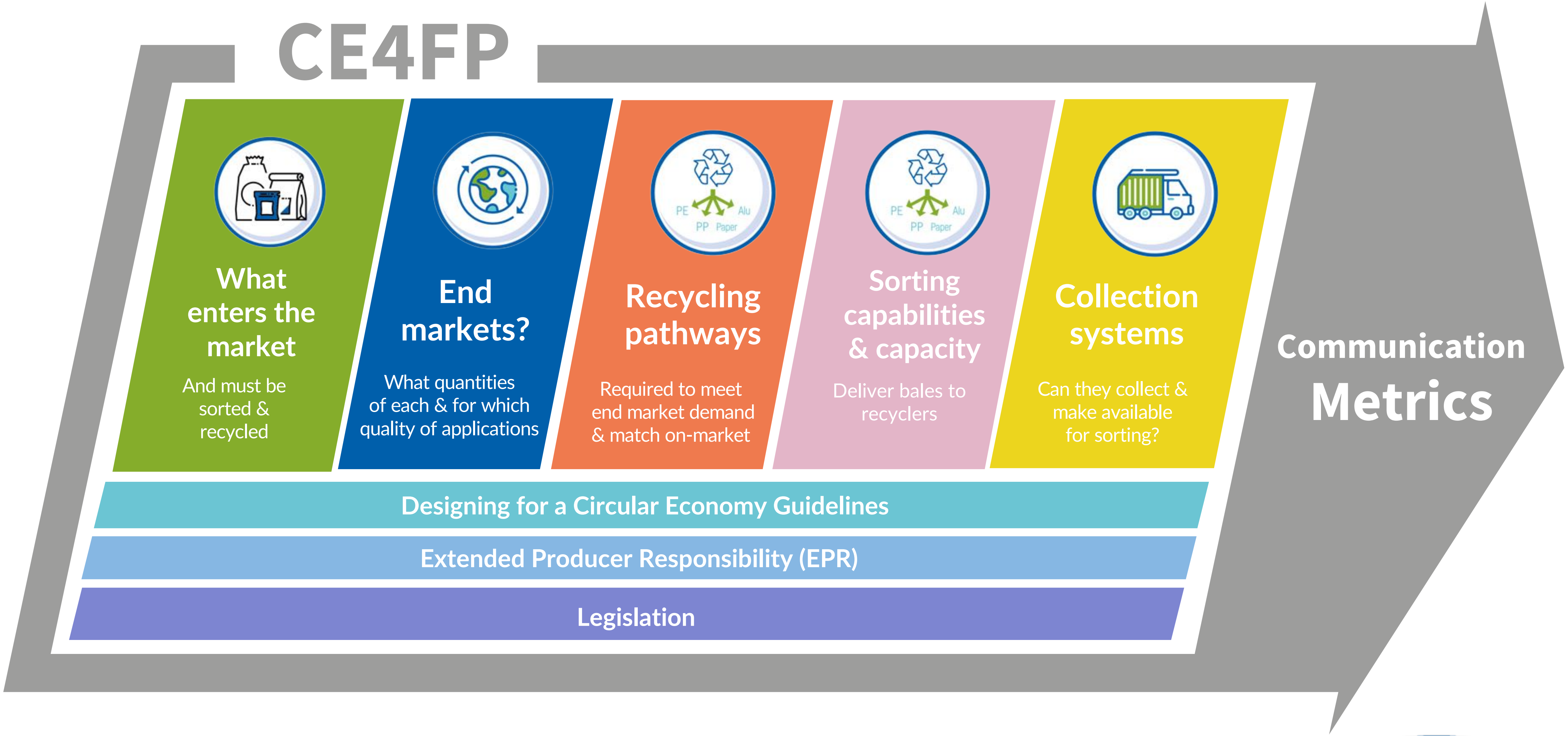
Our Vision and ‘Mission Circular’

Collection of **all** flexible packaging

With over **80% of materials entering a recycling process** to be returned to the economy

And used by **sustainable end markets** to substitute virgin materials

The CEFLEX demand-driven CE4FP



A CIRCULAR ECONOMY FOR FLEXIBLE PACKAGING

Thank you.

Graham@ceflex.eu

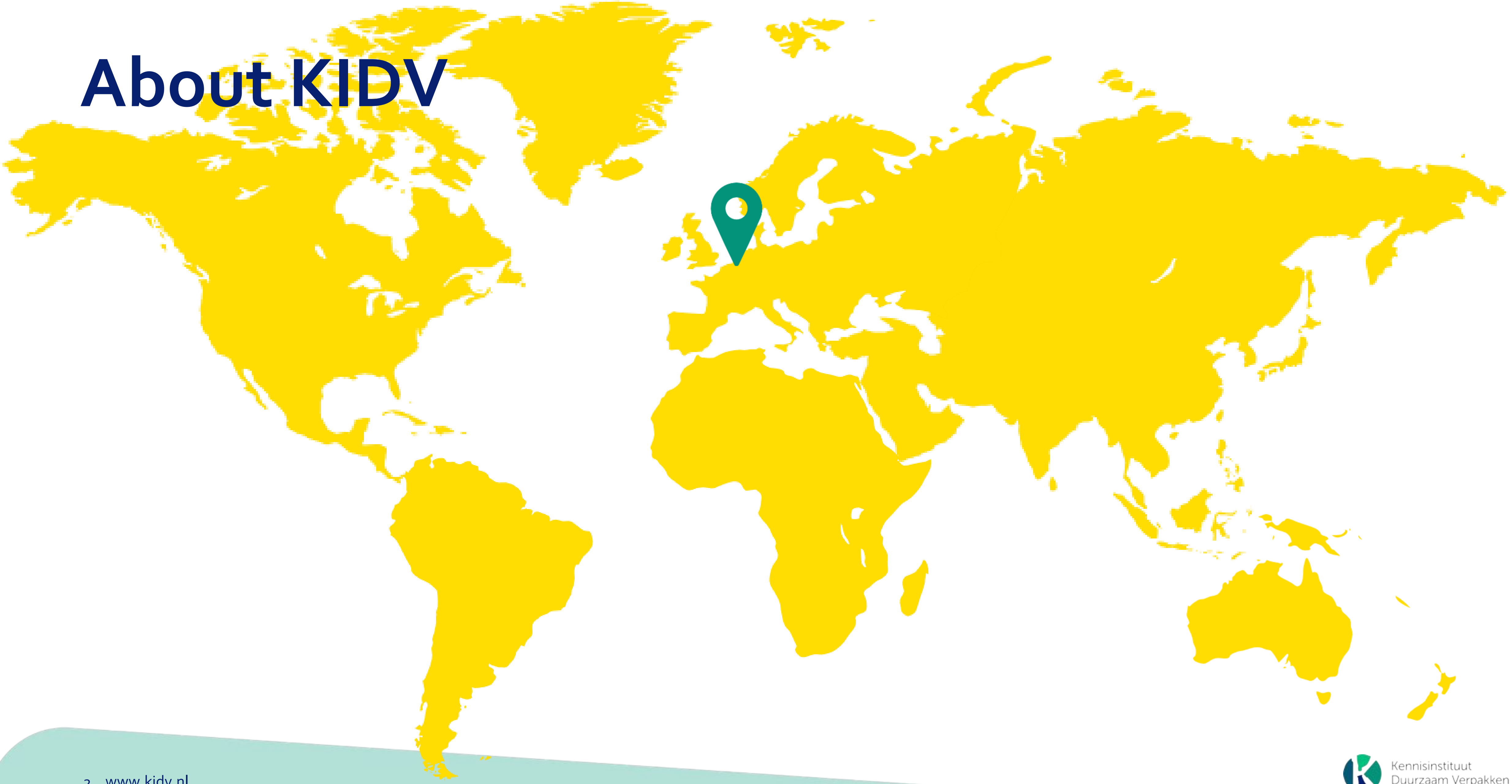
Netherlands Institute
for Sustainable Packaging

Integrating roadmaps for flexible plastic packaging in a national EPR system

Niels van Marle

May 5, 2022

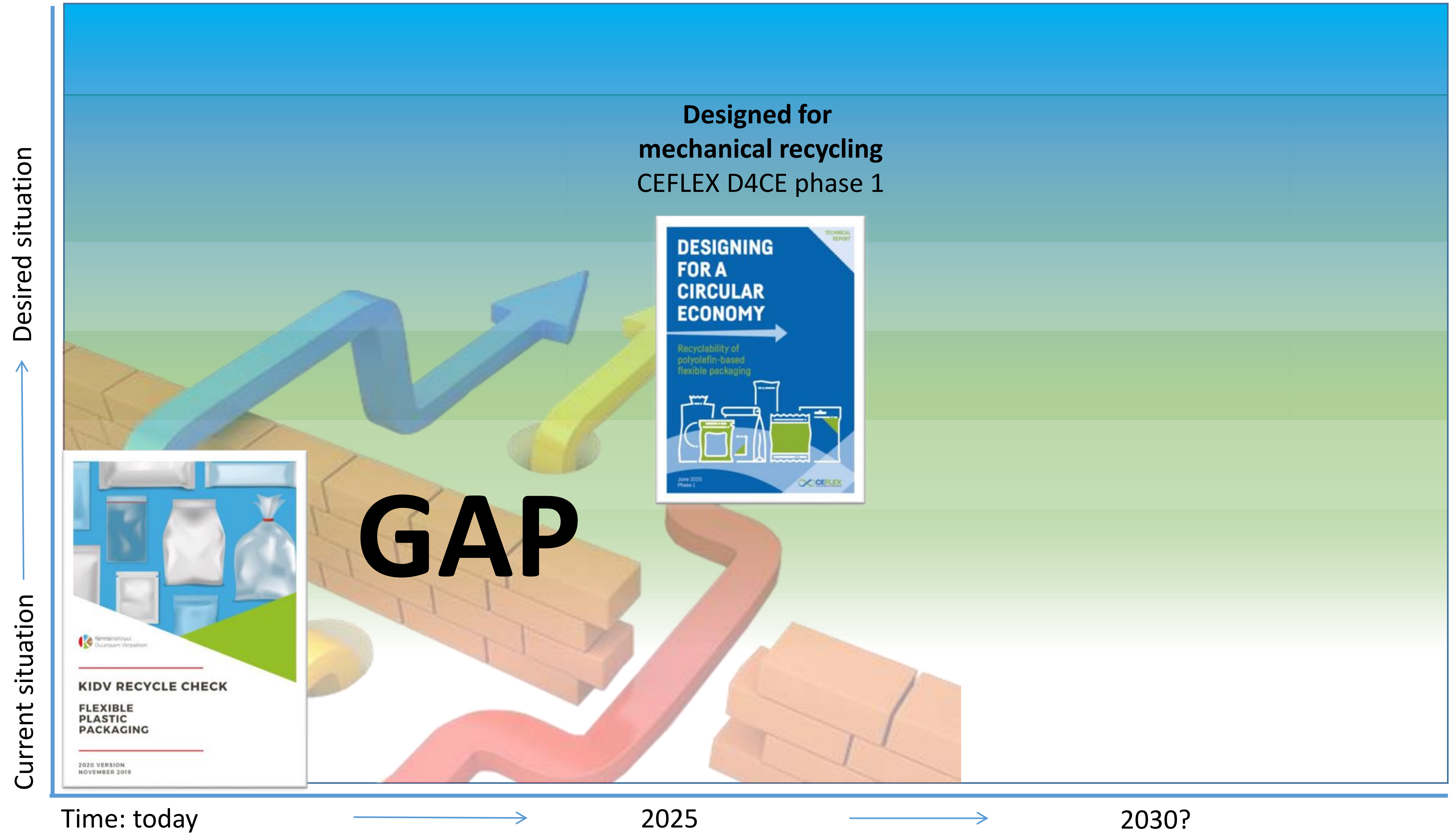
About KIDV



Kennisinstituut Duurzaam Verpakken

About KIDV

- Founded in 2013
- Funded by: *Afvalfonds Verpakkingen* (Dutch EPR system)
- Independent team of 15 professionals
- Mission KIDV: to help reduce the environmental impact of packaging in the entire Dutch packaging value chain


Designed for
mechanical recycling
CEFLEX D4CE phase 1
DESIGNING FOR A CIRCULAR ECONOMY
Recyclability of polyolefin-based flexible packaging
TECHNICAL REPORT
June 2020
Phase 1
CEFLEX
GAP
KIDV RECYCLE CHECK
FLEXIBLE PLASTIC PACKAGING
2020 VERSION
NOVEMBER 2019
Desired situation
Current situation
Time: today
2025
2030?

A Community of Practice was formed to challenge this GAP

FrieslandCampina Intersnack JDE MARS WRIGLEY PEPSICO Unilever CEFLEX Kennisinstituut Duurzaam Verpakken

 https://kidv.nl/roadmap-multilayer-flexible-packaging-in-a-circular-economy

Today's reality in the Netherlands

- All plastic packaging is collected.
- Of all flexible packaging, only PE packaging > A4 format is sorted as mono-fraction.
- Other flexible materials are processed in a plastic mixed-fraction.
- PP and PO are processed in mixed-fraction

Kennisinstituut Duurzaam Verpakken

Potential end markets for recycled PP

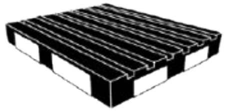
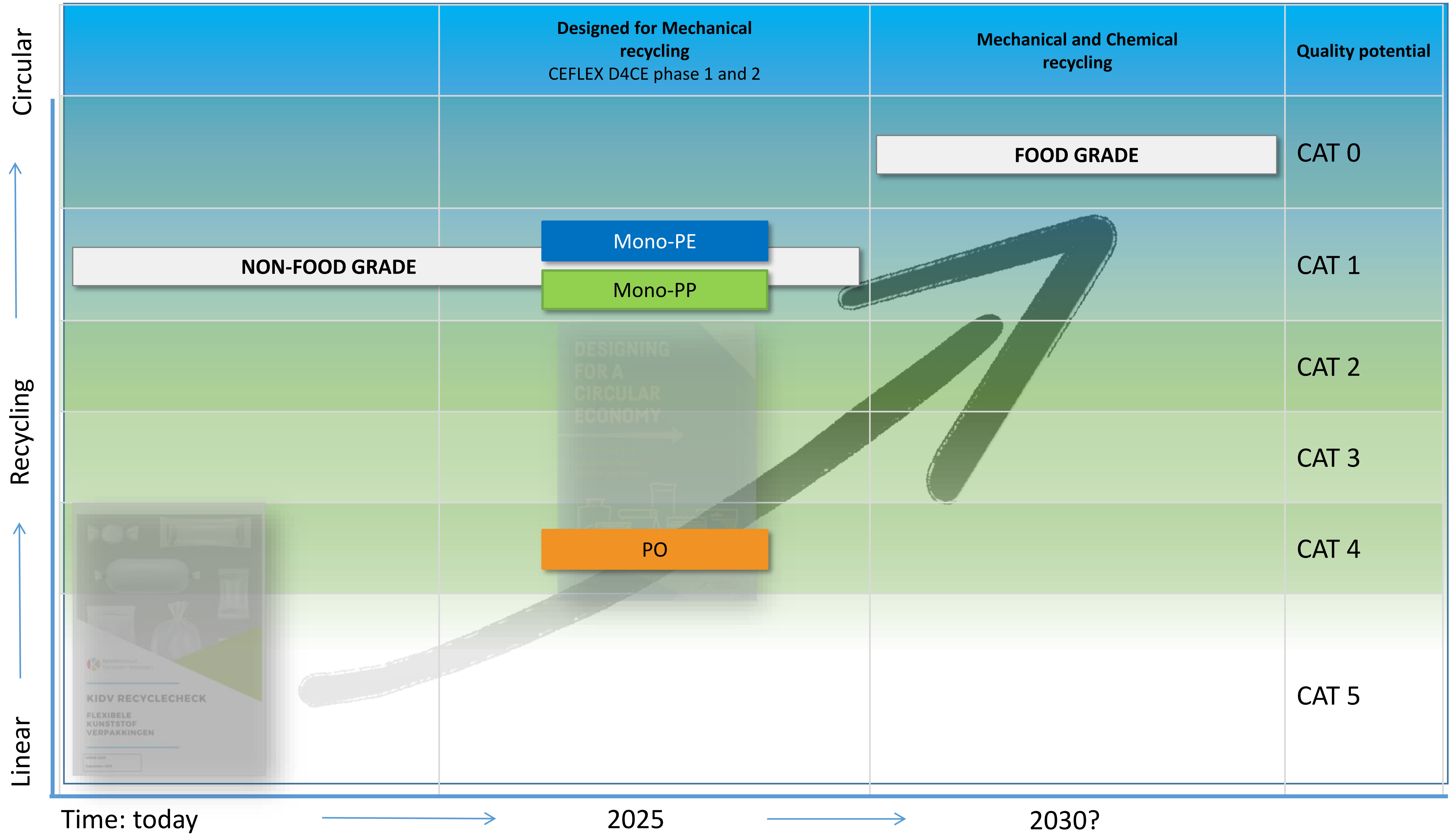
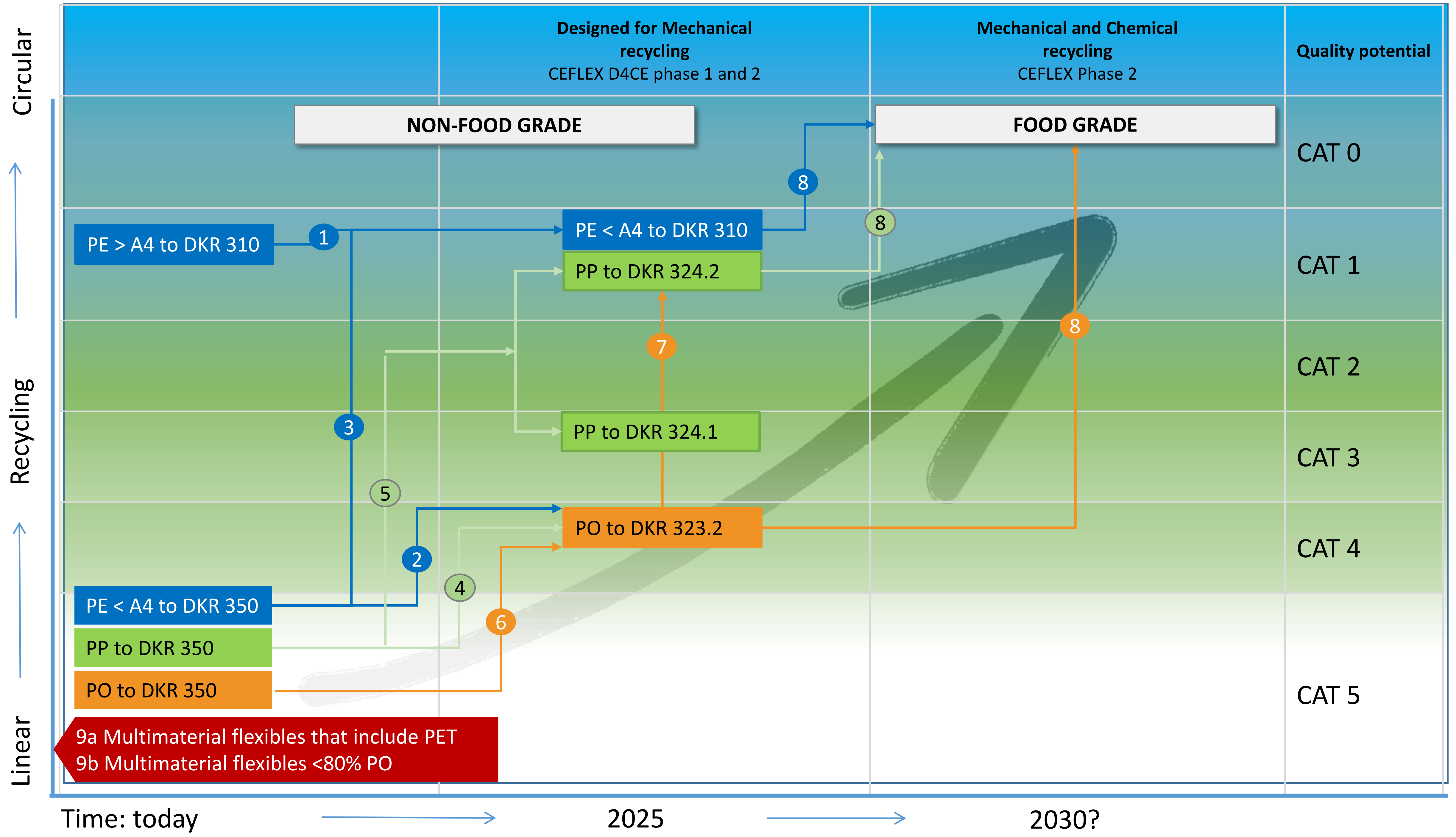
	Quality indicator	Products created with recycled content	Input material (the percentages given are purely indicative)
FOOD	CAT-0	EQUALS VIRGIN	Asumed quality resulting from chemical recycling
NON-FOOD	CAT-1		Pellets with rPP content > 98 %; PE content < 2 %; impurities < 0.1 %
	CAT-2		Pellets with rPP content > 90 %; PE content < 10 %; impurities < 0.5 %
	CAT-3		Pellets with rPP content > 80 % and rPO content > 90%
	CAT-4		Pellets of mixed plastics with > 90 % PO's
	CAT-5		Pellets of mixed plastics with > 70 % PO's

Figure 4. Overview of various quality categories for products made from recycled PP.

Flexible PE >A4 can be recycled into CAT-1 products

Flexible PE <A4 and PP can be recycled into CAT-5 products


Designed for Mechanical recycling
CEFLEX D4CE phase 1 and 2
Mechanical and Chemical recycling
Quality potential
FOOD GRADE
CAT 0
Mono-PE
NON-FOOD GRADE
Mono-PP
CAT 1
CAT 2
CAT 3
PO
CAT 4
CAT 5
DESIGNING FOR A CIRCULAR ECONOMY
KIDV RECYCLECHECK
FLEXIBELE KUNSTSTOF VERPAKKINGEN
Circular
Recycling
Linear
Time: today
2025
2030?

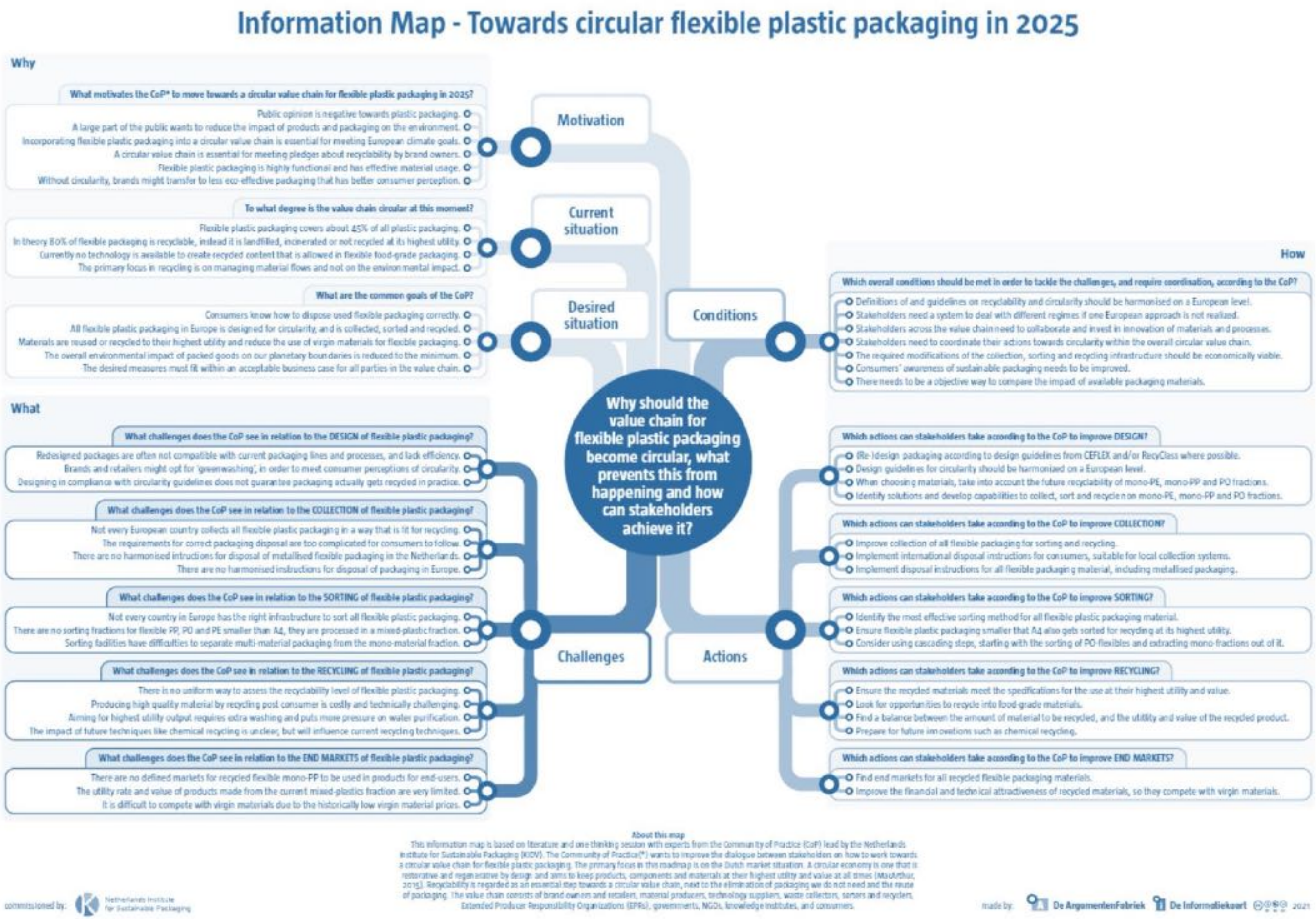


Circular
Recycling
Linear
Designed for Mechanical recycling
CEFLEX D4CE phase 1 and 2
Mechanical and Chemical recycling
CEFLEX Phase 2
Quality potential
NON-FOOD GRADE
FOOD GRADE
CAT 0
CAT 1
CAT 2
CAT 3
CAT 4
CAT 5
PE > A4 to DKR 310
PE < A4 to DKR 310
PP to DKR 324.2
PP to DKR 324.1
PO to DKR 323.2
PE < A4 to DKR 350
PP to DKR 350
PO to DKR 350
1
2
3
4
5
6
7
8
8
8
9a Multimaterial flexibles that include PET
9b Multimaterial flexibles <80% PO
Time: today
2025
2030?

Lessons learned

- We are currently in the process of evaluating the desired roadmap with all strategic valuechain partners.
- European legislation is volume driven instead of quality driven.
  - This gives less incentive for the creation of mono-fractions.
  - How can the EPR system meet European targets at lowest cost?
- There is a strong need for an official definition for the word ‘recyclability’.
  - Brands like to call their packaging recyclable, even when they are not.
  - Consumers are confused.

Extra read



https://kidv.nl/media/cop/laminaten/20210210_information_maptowards_circular_flexible_plastic_packaging_in_2025.pdf

TOGETHER WE CAN

Adam Herriott | 05.05.2022

Wrapping our heads around plastic films & flexibles

wrap

THE UK PLASTICS PACT

The UK Plastics Pact – Vision

A WORLD WHERE PLASTIC IS VALUED AND DOESN'T POLLUTE THE ENVIRONMENT.

TOGETHER
BRANDS
RETAILERS
MANUFACTURERS
PRODUCERS
RECYCLERS
NGOS
GOVERNMENTS
LOCAL AUTHORITIES
CITIZENS
CAN

The scale of the problem

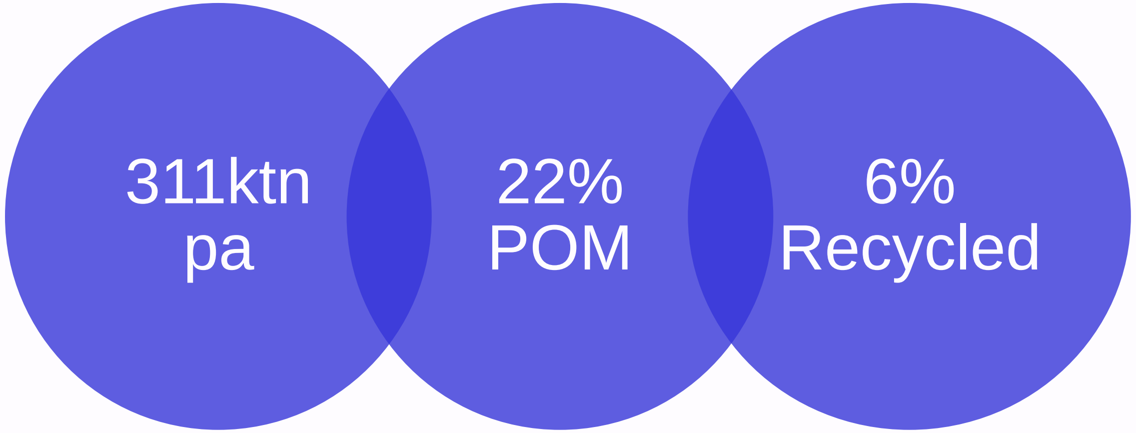
- Galvanising the entire plastics value chain around a common roadmap for the flexible plastic packaging is one of the top priorities of the UK Plastics Pact

  Marcus Gover, WRAP

- Big challenge that needs to be tackled if we are to reach the Pact Targets

- Roadmap has now been active for 3 years

	HDPE	LDPE	PE	PET	PP	PS	PVC	Other	Grand Total	
Bottle	274	0	2	348	17	0	0	1	643	*44%*
Film	16	103	17	43	80	4	3	46	311	*22%*
Other	43	21	3	44	77	2	1	2	194	*13%*
PTT	5	0	3	164	92	28	3	4	300	*21%*
Grand Total	338	125	24	599	267	35	7	53	1,447	
	23%	*9%*	*2%*	*41%*	*18%*	*2.4%*	*0.5%*	*4%*		

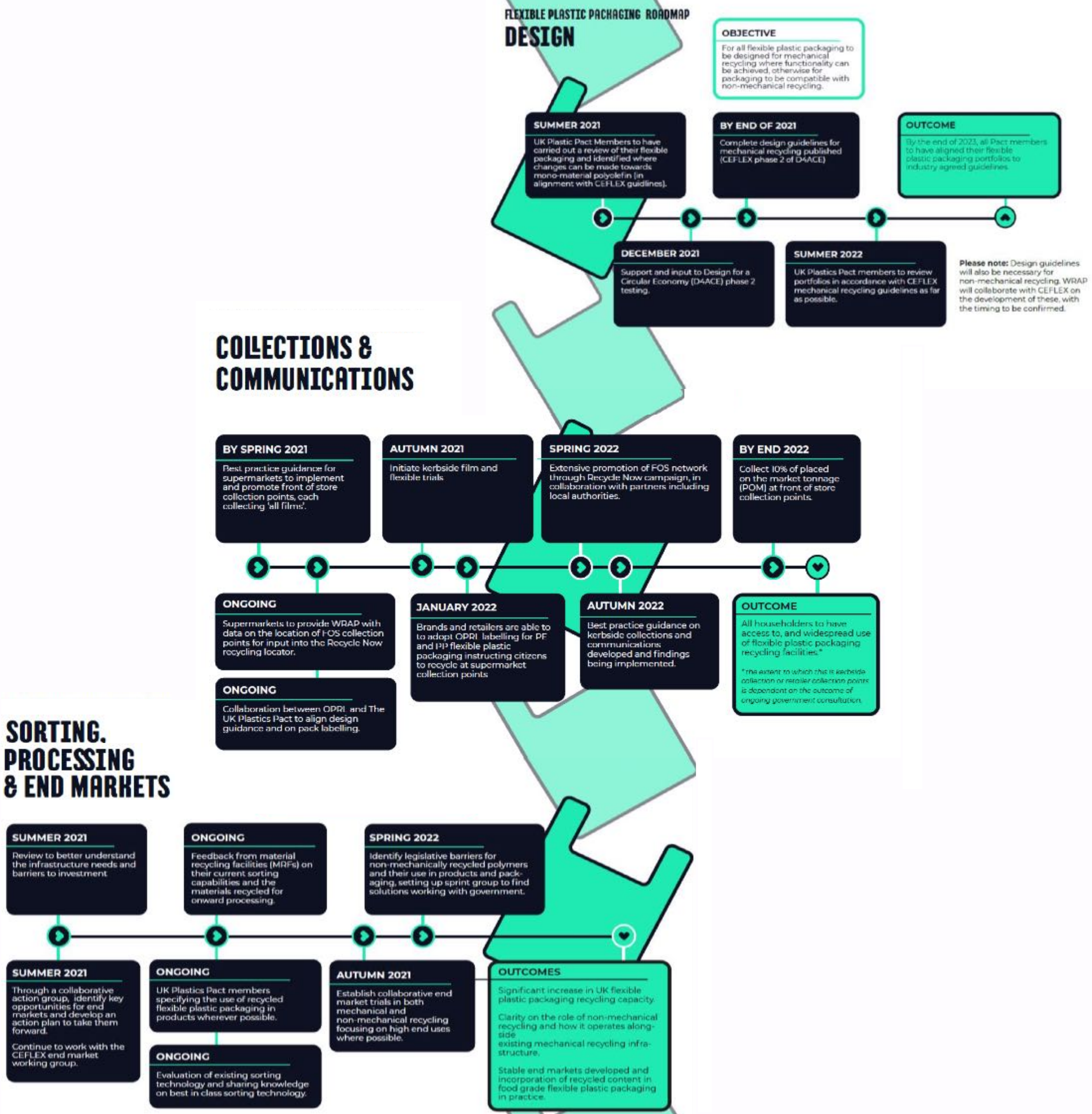


How do we overcome this?

- **Simplify** packaging design
- **Capitalise on** front of store collection points
- **Implement** collections from home
- **Investment in** sorting & reprocessing
- **Ensure** strong & stable end markets

The Roadmap

- Three Key Areas
- Key Activities
  - Alignment with CEFLEX
  - Short-term: Collect FoS
    - National Campaign
  - Long-term: Collect kerbside
    - Kerbside Trials
  - OPRL to align with UKPP
  - Kerbside trials
  - End-Markets Opportunities Report
  - Barriers to Non-mechanical Recycling
  - Collaborative End Market Trials



Progress

Design

- Fed into CEFLEX D4ACE
- Members reviewed portfolio & have started to make design changes

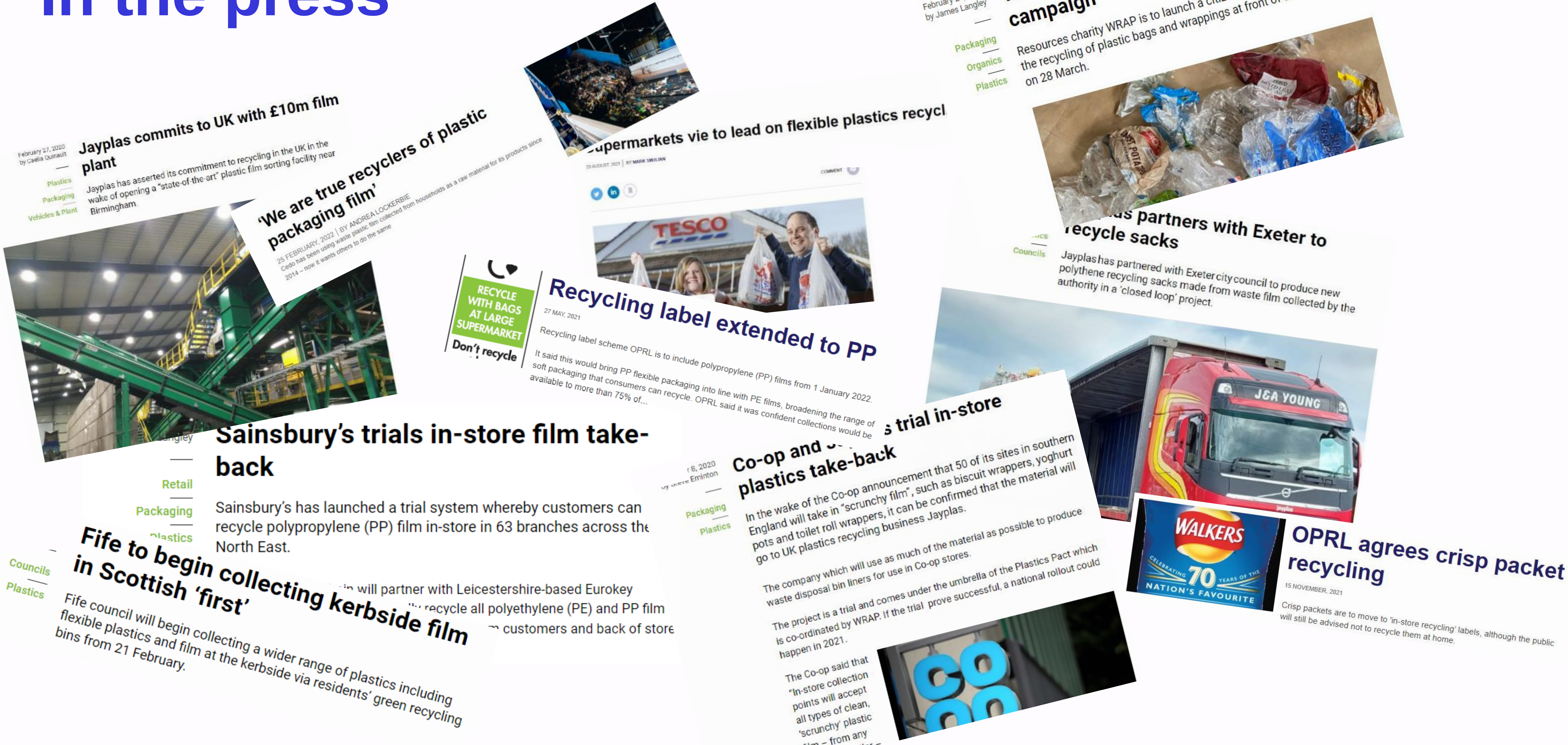
Collections & Communication

- Two sets of consumer insights surveys
- FoS guidance document
- Retailers launched and expanded FoS offering
- Retailers updated locations for the Recycle Now Locator
- Changes to OPRL rules for PP and metallised PP

Sorting, Processing & End Markets

- Non-mechanical Recycling Deep Dive for Defra
- End Market Opportunities Report
- Increased investment in sorting & reprocessing capacity for UK film recycling
- Cross-supply chain partnerships demonstrating new and innovative end-market opportunities

In the press


February 24, 2022 by James Langley
Packaging
Organics
Plastics
WRAP to launch plastic bag recycling campaign
Resources charity WRAP is to launch a citizen campaign encouraging the recycling of plastic bags and wrappings at front of store locations on 28 March.
February 27, 2020 by Caelia Quinault
Plastics
Packaging
Vehicles & Plant
Jayplas commits to UK with £10m film plant
Jayplas has asserted its commitment to recycling in the UK in the wake of opening a "state-of-the-art" plastic film sorting facility near Birmingham.
'We are true recyclers of plastic packaging film'
25 FEBRUARY, 2022 | BY ANDREA LOCKERBIE
Supermarkets vie to lead on flexible plastics recycl
TESCO
Councils
…s partners with Exeter to …ecycle sacks
Jayplas has partnered with Exeter city council to produce new polythene recycling sacks made from waste film collected by the authority in a 'closed loop' project.
RECYCLE WITH BAGS AT LARGE SUPERMARKET
Don't recycle
Recycling label extended to PP
27 MAY, 2021
Recycling label scheme OPRL is to include polypropylene (PP) films from 1 January 2022.
It said this would bring PP flexible packaging into line with PE films, broadening the range of soft packaging that consumers can recycle. OPRL said it was confident collections would be available to more than 75% of...
J&A YOUNG
Sainsbury's trials in-store film take-back
Retail
Packaging
Plastics
Sainsbury's has launched a trial system whereby customers can recycle polypropylene (PP) film in-store in 63 branches across the North East.
…will partner with Leicestershire-based Eurokey
…recycle all polyethylene (PE) and PP film
…customers and back of store
Councils
Plastics
Fife to begin collecting kerbside film in Scottish 'first'
Fife council will begin collecting a wider range of plastics including flexible plastics and film at the kerbside via residents' green recycling bins from 21 February.
Packaging
Plastics
Co-op and … trial in-store plastics take-back
In the wake of the Co-op announcement that 50 of its sites in southern England will take in "scrunchy film", such as biscuit wrappers, yoghurt pots and toilet roll wrappers, it can be confirmed that the material will go to UK plastics recycling business Jayplas.
The company which will use as much of the material as possible to produce waste disposal bin liners for use in Co-op stores.
The project is a trial and comes under the umbrella of the Plastics Pact which is co-ordinated by WRAP. If the trial prove successful, a national rollout could happen in 2021.
The Co-op said that "In-store collection points will accept all types of clean, 'scrunchy' plastic
WALKERS
CELEBRATING 70 YEARS OF THE NATION'S FAVOURITE
OPRL agrees crisp packet recycling
15 NOVEMBER, 2021
Crisp packets are to move to 'in-store recycling' labels, although the public will still be advised not to recycle them at home.

Looking Forward

- Support CEFLEX on D4ACE Phase 2
- Members to continue to review and change their portfolio

- FoS National citizen campaign
- Enhance Recycle Now Locator
- Kerbside trials

- Non-technical barriers to non-mechanical recycling Report
- Non-mechanical Policy White Paper
- FoS material end-markets collaborative trials
- Joint UKPP & CEFLEX End Market webinar/workshop

Thank you

Adam.Herriott@wrap.org.uk

www.wrap.org.uk

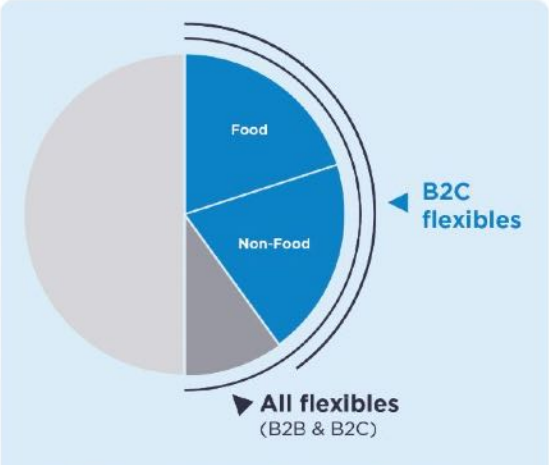
ELLEN MACARTHUR FOUNDATION

FLEXIBLE PACKAGING:

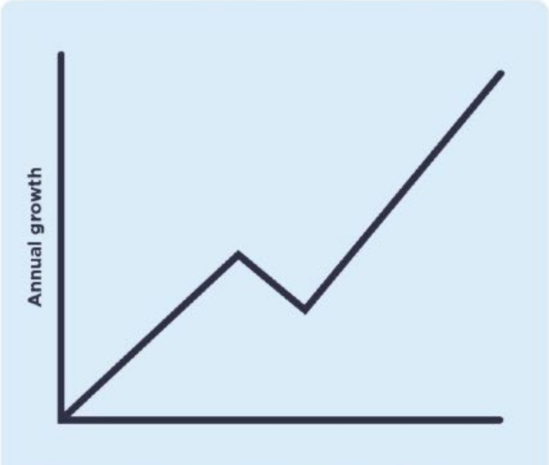
The urgent actions needed to deliver circular economy solutions

Plastic flexibles are ubiquitous and growing fast

Tens of trillions of items per year



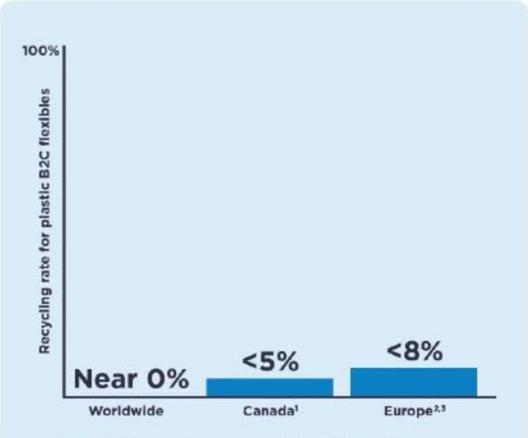
30-40% of the plastic packaging market*



Fastest growing plastic packaging category

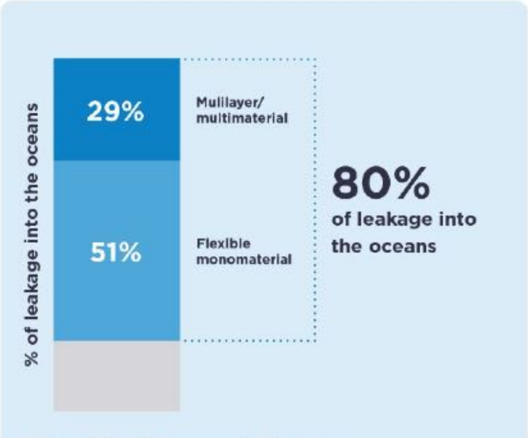
*By weight

The most challenging market segment to address



Very little recycled anywhere in the world

Mostly into lower quality applications



Disproportionate share of leakage

*By weight

Engaged
100+
organisations

Facilitated
28+
workshops

Explored
6
Solution pathways

Identified
An overarching strategy

+

21
urgent and specific actions to deliver circular economy solutions

Now it is time for implementation

Overarching strategy

MOVE AWAY

CIRCULATE

SUBSTITUTION

RECYCLING

DRIVE A STRONG UPSTREAM INNOVATION AGENDA

MOVE AWAY

Eliminating and innovating away from single-use flexible packaging must be the first and foremost part of any flexible packaging strategy

1,100 Tonnes

Currently reported direct elimination efforts* ~ the weight of a single Giant Sequoia tree

*As reported in the 2021 reporting cycle for the Global Commitment.

45,000 Tonnes

(~40-50 Giant Sequoias)

1,100 Tonnes

Currently reported efforts

Direct elimination potential for <u>just three</u> specific applications in EU & USA

5-10%[1] of B2C flexibles market

Elimination potential by 2040 if looking worldwide and across many different sectors

1,100 Tonnes

Currently reported efforts

45,000 Tonnes

Direct elimination potential for <u>just three</u> specific applications in EU & USA

- Plastic nets from multi-packed fruit and veg, such a lemons and oranges.
- Plastic covers from magazines.
- Plastic covers from bed sheets and pillow cases.
- Plastic tear-offs from jars, bottles, etc.
- Multi-pack wrapping from chewing gum, chocolate bars, biscuits, etc.
- Pouches for hardware products such as hammers, spanners, fittings, etc.
- Plastic film wrapping from board games, playing cards, around individual toys, lotions and perfumes, greeting cards, etc.

...and many, many more

1. **The PEW Charitable Trust and Systemiq**, “Breaking the Plastic Wave: A comprehensive assessment of pathways towards stopping ocean plastic pollution”, 2020.

Three promising innovation opportunities that could be scaled by 2025

(identified by an expert panel)

2022 2023 2024 2025

Water-soluble packaging

Particularly relevant for: *home care products*

Solid products

Particularly relevant for: *personal care and home care products*

Edible coatings

Particularly relevant for: *fresh fruits and vegetables*

CIRCULATE

For the single-use flexible packaging items that cannot currently be eliminated without unintended consequences, unprecedented efforts are required to ensure they can be circulated

SUBSTITUTION

To paper or compostable flexibles and ensuring circulation

RECYCLING

Staying with plastic flexibles and ensuring circulation

DESIGN FOR RECYCLING

DESIGN FOR RECYCLING

Europe

30% recycling rate for a population of 400 million

A few crucial signals need to be in place ASAP...

Commitment from government to collect flexible packaging

Commitment from EPR organisations to set fees that cover the true net cost of recycling these formats (e.g. in Europe fees of ~EUR 1,100/tonne are a good estimate of what may be required)

Separate recycling rate targets for flexible packaging

So that stakeholders can confidently invest the required capex of at least **EUR 2 billion** in...

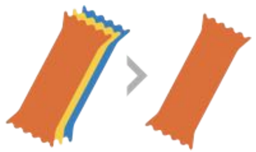
3x collection capacity

3x sorting capacity

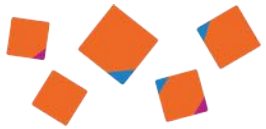
4x recycling capacity

And in parallel businesses need to further accelerate packaging design changes

Switch all multi-material flexibles (currently 40%) to mono-material



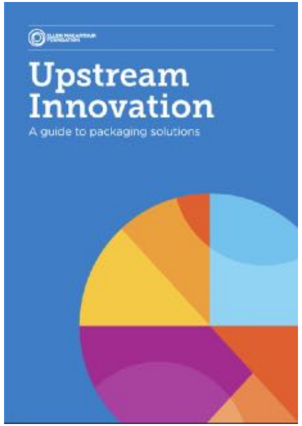
Eliminate or redesign items smaller than 50x50mm



Reduce coatings, glues and inks to <10%, ideally 5%

DRIVE A STRONG UPSTREAM INNOVATION AGENDA

While they are currently a necessary part of the solution, inherent limitations of recycling and substitution strategies means that staying with single-use flexibles will always present a challenge from a circular economy perspective and we need to keep driving a strong upstream innovation agenda.



21

urgent and specific actions to deliver circular economy solutions

		Businesses to:	Policymakers, collaborative cross-sector initiatives and businesses (through advocacy) to:
MOVE AWAY	Direct	1. Exhaustively identify and action opportunities for direct elimination*, taking inspiration from existing case examples 2. Embed a critical assessment of the need for flexible packaging in all new product development processes* *On average, 5-10% of a flexibles portfolio can be considered unnecessary	3. Align on priority items to eliminate within sectors (e.g. personal care, clothing, fruit and vegetables) to drive up the ambition level across the entire industry
	Innovative	4. Introduce a high-priority and well-resourced R&D agenda to make upstream innovation THE major component of every flexibles strategy 5. Set-up sector specific collaborative initiatives with specific objectives (such as facilitating roll out of an existing innovation or answering key questions for a more nascent solution)	6. Create a supportive policy landscape for innovation (e.g. introduce subsidies, bans, EPR).
RECYCLING		7. Radically improve packaging design, in particular, shift to mono-materials for the >40% of flexibles that are currently multi-material.	**Formal** 8. Set separate recycling targets for flexibles (e.g. in Europe revisit the 2030 targets). 9. Increase EPR fees for flexibles (e.g. in Europe, fees of ~EUR 1,100 are a good estimate of what may be required) 10. Expand collection of flexibles for recycling (e.g. in Europe >40% of the population do not have access to separate collection for flexibles) 11. Invest in infrastructure (e.g. >EUR 2 billion in Europe). **Informal** 12. Establish an inclusive process, gathering data on existing structures and processes and identifying informal sector organisations to work with. 13. Finance improvements in infrastructure, tech and tools through large infrastructure investments and microfinancing for the informal sector. 14. Roll out holistic waste management legislation, including inclusive EPR legislation.
SUBSTITUTION	Paper	15. For your organisation's entire paper-based packaging portfolio, put in place a robust reduction, virgin reduction and regenerative sourcing strategy — to ensure that substitution from plastic to paper flexibles does not increase demand for virgin paper. 16. Improve paper packaging design so that all paper-based packaging fits into both recycling and composting systems.	17. Increase collection and recycling rates for paper-based flexibles.
	Compostables	18. For applications supporting the collection of food waste or addressing existing contamination in composting systems: Implement compostable materials. 19. Before pursuing compostables as a broader strategy for flexibles: Demonstrate the mechanisms that would need to be in place to prevent contamination of both the composting and recycling systems.	20. Define and implement best practices for composting of food waste and align compostable packaging standards with this. 21. Roll out collection and composting infrastructure for food and organics

Visit our website here

Project content

Visit our website here

WEBSITE

Easily digestible overview of the different strategies for flexible packaging, and the key insights and actions for each.

EXECUTIVE AND STRATEGY SUMMARIES

Short, high-level strategy document. Doesn't contain any analysis, reasoning or details for the key actions.

STRATEGY DEEPDIVES

Detailed insights and analysis, and detailed key actions for the different strategy options.

SUPPLEMENTARY INFORMATION

Supporting data and references.