

FLEXIBLE PACKAGING:

MOVE AWAY FROM SINGLE-USE FLEXIBLES:

**Innovative Elimination
and Reuse**



Deepdive

This document is a strategy deepdive with detailed insights, analysis and actions. For a high-level overview of the work, see the executive summary.

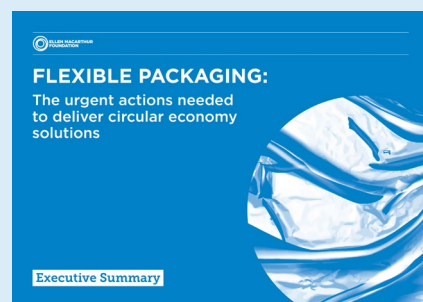
WEBSITE

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

[Click here](#)

EXECUTIVE SUMMARY

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.



OVERARCHING STRATEGY

(this deepdive relates to only one part of this overall flexible packaging strategy)

[Click here for the executive summary.](#)

CONTEXT

Flexible packaging is the fastest-growing plastic packaging category. Because it is almost uniformly single-use, with very low recycling and high leakage rates, it is also by far the most challenging market segment to address on the journey towards a circular economy for plastics.

OVERARCHING STRATEGY

Eliminating and innovating away from single-use flexible packaging must be the first and foremost part of any flexible packaging strategy — because as soon as single-use flexible waste is generated, regardless of material or geography, it is very hard to deal with. Current efforts are only just scratching the surface and a step-change in the level of commitment and effort across direct elimination of unnecessary packaging and exploration of upstream innovation solutions, such as reuse, is required from ALL stakeholders.

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. This can include staying with a conventional plastic and scaling recycling systems, or substitution to a different material (such as paper or compostable plastics where relevant) and then scaling those systems. Either way, what is clear is that unless simultaneous, unprecedented efforts across packaging design, infrastructure, and policy are begun immediately — efforts that push far beyond the level of activity we are currently seeing — the circulation of flexible packaging in practice and at scale is unlikely to happen in the foreseeable future.

While they are currently a necessary part of the solution, the inherent quality and yield limitations of recycling and substitution strategies mean that staying with single-use flexible packaging will always present a challenge from a circular economy perspective. This is why we need to keep driving a strong upstream innovation agenda (in line with the first part of the overarching strategy) in order to find ways to eliminate ever-increasing single-use flexible packaging over time.

URGENT ACTIONS

This work has identified 21 specific and urgent actions for flexible packaging that need to be commenced immediately by businesses and policymakers in order to make significant progress towards 2025 targets and beyond.



KEY ACTIONS FOR INNOVATIVE ELIMINATION & REUSE

INNOVATIVE ELIMINATION AND REUSE: single-use flexibles are eliminated through innovations that remove the need for these formats altogether.

INNOVATIVE ELIMINATION & REUSE

KEY ACTIONS

Businesses to:

Introduce a high-priority and well-resourced R&D agenda to make upstream innovation the major component of every flexibles strategy — acknowledging that existing efforts are well below where they can and need to be

Set up sector-specific collaborative initiatives with specific objectives (such as facilitating rollout of an existing innovation or answering a key question for a more nascent solution)

[See page 6 for details](#)

Policymakers, collaborative cross-sector initiatives, and businesses (through advocacy) to:

Create a supportive policy landscape for innovation (e.g. Introduce subsidies, bans, EPR)

[See page 7 for details](#)

Businesses to:

Introduce a high-priority and well-resourced R&D agenda to make upstream innovation the major component of every flexibles strategy — acknowledging that existing efforts are well below where they can and need to be

All businesses with flexibles in their portfolio (e.g. retailers and FMCGs) to make upstream innovation a core part of their flexibles strategy by setting ambitious short-, mid-, and long-term innovation agendas. This includes:

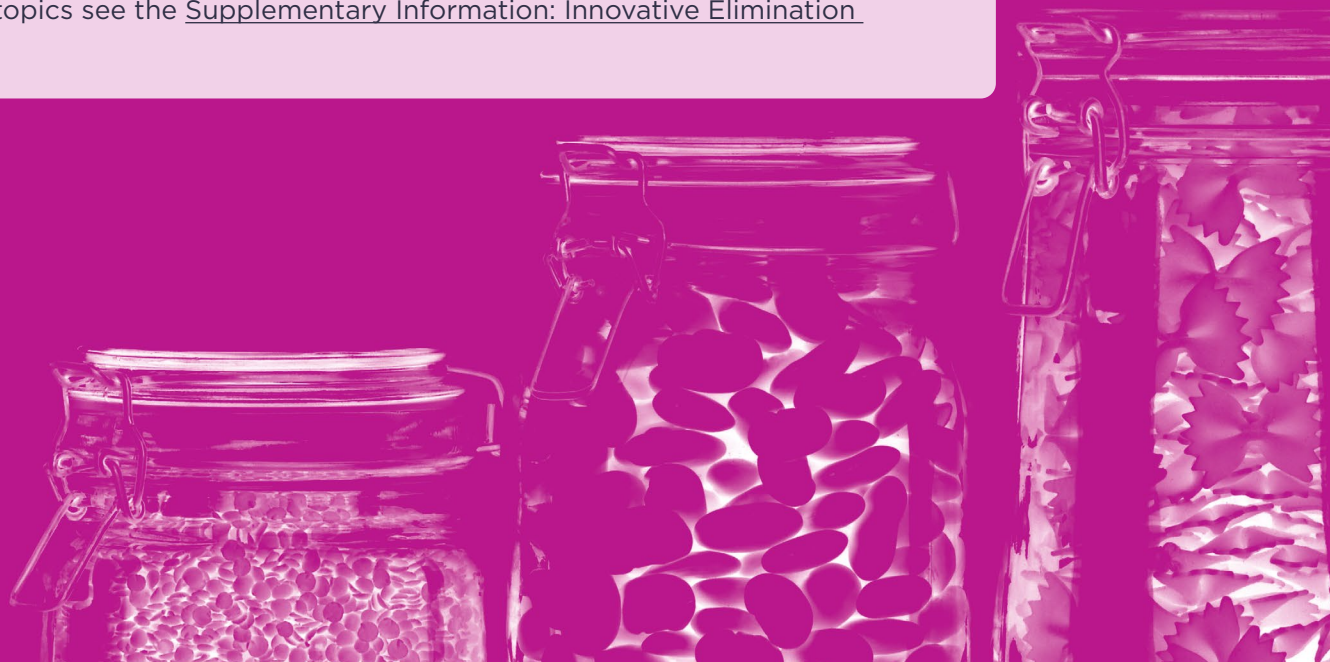
- Dedicating the internal resources required for innovative elimination and reuse (refill and return) to be a major component of a flexibles R&D strategy by the end of 2022 (which would mean that significant progress on understanding opportunities could be made by 2025 and impact on material flows could be visible by 2030).
- Identifying specific research questions and mapping a process to answer them by 2025, in order to further the understanding and therefore development of innovative solutions (especially reuse systems).
- Setting internal targets for innovative solutions, such as innovative elimination and reuse, to support the above efforts (and, preferably, communicating these targets externally). These targets could take a variety of forms, for example, they could be volume/mass targets, or funding/investment targets, etc.

Businesses to:

Set up sector-specific collaborative initiatives with specific objectives (such as facilitating rollout of an existing innovation or answering a key question for a more nascent solution)

Businesses with flexibles in their portfolio, together with innovators, universities and NGOs as relevant, to set up sector- and solution-specific collaborative initiatives/consortia by the end of 2023 to:

- Roll out upstream innovations that have already proven to be successful at pilot scale (for example, refill for dried foods and edible coatings for fresh fruit and vegetables).
- Explore and develop more nascent solutions (for example, refill piloting of home/personal care between multiple brands in SE Asia) with the aim to understand if and how they might scale, and to collectively help lower the barriers (for specific questions to be addressed through collaborative actions, see pages under key insight 4. For an overview of some of the innovators already working on these topics see the [Supplementary Information: Innovative Elimination and Reuse – “What does good look like?”](#)).



Policymakers, collaborative cross-sector initiatives, and businesses (through advocacy) to:

Create a supportive policy landscape for innovation (e.g. Introduce subsidies, bans, EPR)

National and regional policymakers to set a geographically relevant, ambitious innovation agenda to facilitate innovative elimination and reuse solutions. This includes legislation to support these solutions (for example, subsidies for infrastructure, bans on certain single-use alternatives where appropriate, EPR policy design); phase out legislation that actively hinders these solutions (for example, phase out legislation that does not differentiate between refilling packaging and manufacturing new packaging and product); and, public R&D funding for innovation (for example, funding for early-stage research as well as industrial-scale pilots).



INNOVATIVE ELIMINATION & REUSE SECTORS AND GEOGRAPHIES OF PARTICULAR RELEVANCE

Opportunities for reuse and innovative elimination should be explored across all sectors, but in particular, a few categories were identified by our panel of experts as either being categories in which progress could be made fast (i.e. within 2-5 years) or categories of specific potential in the longer-term.

For example:



PERSONAL CARE - HYGIENE

Solid products, dissolvable packaging, and refill/return



HOME CARE

Solid products and refill



DRIED FOOD & CEREALS

Refill



FRUIT & VEG

Edible coatings

Innovative elimination and reuse is of key importance across all geographic archetypes given the limitations of substitution and recycling systems.

Note: Innovation is of particular importance in geographies serviced by the informal sector, where the uncertainty, risk, and timeframes associated with pursuing a recycling strategy are particularly significant, lowering the barriers to pursuing an innovation strategy (see the [informal recycling deepdive](#)).

Geographic Archetype 1: Geographies with low volumes of mismanaged packaging waste, and advanced waste management systems.

For example: Established recycling systems producing high-quality recyclate; mandatory EPR.

Proxy geography: Europe

Geographic Archetype 2: Geographies with low volumes of mismanaged packaging waste, but less advanced waste management systems.

For example: Recycling systems are limited in scale or have considerable loss of material quality; emerging, limited or voluntary EPR.

Proxy geography: USA

Geographic Archetype 3: Geographies with high volumes of mismanaged packaging waste and limited/no waste management systems.

For example: Limited systems even for collection; No/limited EPR

Proxy geography: South and South-East Asia

4 KEY INSIGHTS SUPPORTING THE KEY ACTIONS

INNOVATIVE ELIMINATION & REUSE

4 KEY INSIGHTS

1

Solving the challenge of flexibles will require continuous, ambitious innovation — to move away from ever-increasing single-use flexible formats over time.

2

Upstream innovation (namely, innovative elimination and reuse) provides a promising approach.

3

There are innovative elimination and reuse solutions that could already have impact by 2025, while others show strong potential but will require longer timeframes and collaboration.

4

Individual and collaborative innovation efforts need to be urgently ramped up to explore and scale these opportunities in both the short and medium timeframe — current efforts are not sufficient.



INNOVATIVE ELIMINATION & REUSE

4 KEY INSIGHTS

1

Solving the challenge of flexibles will require continuous, ambitious innovation — to move away from ever more single-use flexible formats over time

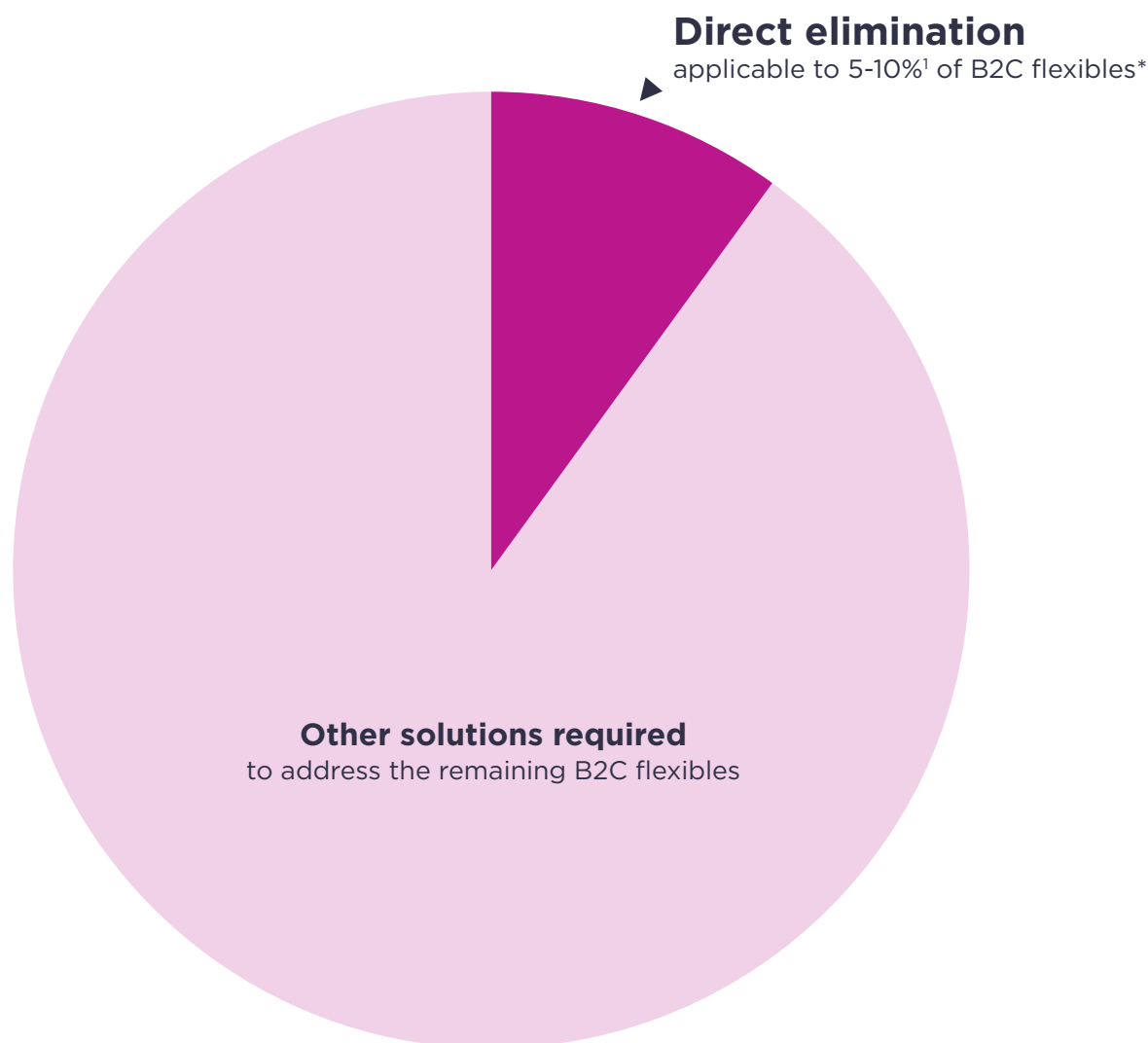
Without innovation to move-away from single-use flexibles, we will not achieve a circular economy for plastics. Many flexibles can't be directly eliminated without unintended consequences and both recycling and substitution, while needed, have inherent limitations meaning they will always present a challenge from a circular economy perspective. A broader range of solutions is needed.

See following page for details and references



Many flexibles can't be directly eliminated without unintended consequences and both recycling and substitution, while needed, have inherent limitations meaning they will always present a challenge from a circular economy perspective.

A broader range of solutions is needed.



*For additional information and references, see the [Supplementary Information: Innovative Elimination and Reuse](#) – “What is the opportunity to work towards?”

1. The PEW Charitable Trust and Systemiq, Breaking the plastic wave: a comprehensive assessment of pathways towards stopping ocean plastic pollution (2020).

Not all B2C flexibles are unnecessary and therefore eligible for direct elimination
See the direct elimination deepdive for further details

Even in a maximally optimised recycling scenario for B2C flexibles, there will be significant unavoidable material quality and quantity losses, and therefore considerable virgin input requirements.

MECHANICAL RECYCLING comes with significant and inherent QUALITY losses:

- Even if radical design changes are made across all flexibles, a mechanical recycling process will always produce non-virgin quality recyclate.
- Given the material properties required to produce high-performance flexibles, it was broadly agreed by our expert panel that an average of 30% mechanically recycled content is pushing the upper limit for B2C flexibles.
- **This quality loss thus limits the amount of mechanically recycled content that can go back into B2C flexibles.**

CHEMICAL RECYCLING comes with significant and inherent YIELD losses:

- Even if radical design changes are made across all flexibles, a chemical recycling process will always have significant yield losses.
- Polymer yield from a chemical recycling process (i.e. the amount of polymer obtained after polymerisation relative to the amount of polymer going into the pyrolysis unit) is generally found to be between 30-50%, (i.e. there is a 50-70% loss of material from the plastic packaging system).
- While it is technically possible to make a food contact B2C flexible from 100% chemically recycled plastics, to do so across all B2C flexibles would require significant chemically recycled content to be brought in from other sectors/industries, simply transferring rather than solving the issue of 'yield losses'.

Even in a maximally optimised recycling scenario for B2C flexibles, there will be significant unavoidable material quality and quantity losses, and therefore considerable virgin input requirements.

Maximally optimised recycling system for plastic B2C flexibles**

What the global flows for plastic B2C flexibles would look like assuming:

- All B2C flexibles are collected and recycled via highly optimised mechanical and chemical recycling processes.
- The amount of plastics going back into B2C flexibles is maximised.

NOTES

**What the global flows for plastic B2C flexibles would look like assuming:

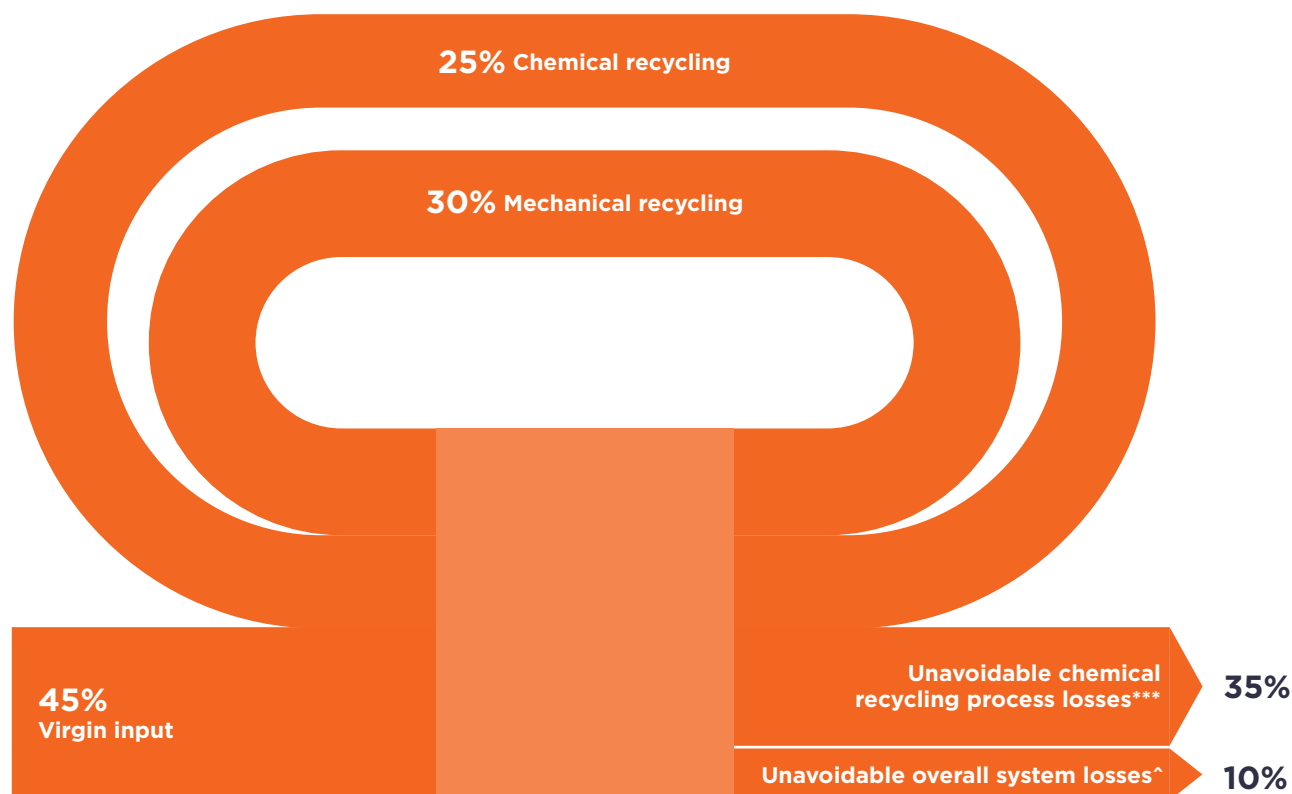
a) All B2C flexibles are collected and recycled via highly optimised mechanical and chemical recycling processes; b) The amount of plastics going back into B2C flexibles is maximised; c) All flexible packaging (including food packaging) would contain 30% mechanically recycled content; d) The average yield for chemical recycling was 40%.

***Assuming a 60% loss of material from the plastic packaging system (as gasses and waxes) in a chemical recycling process, as per yield discussion above.

^Losses such as those that occur through collection and sorting processes as well as packaging production processes. 10% is highly conservative.

NOTE: Here chemical recycling refers to pyrolysis of polyolefins, this being the predominant technology in use/being considered for scale-up.

For additional information and references see the Deepdive: [Plastic B2C flexibles: Design and recycling in the formal sector](#)



For paper recycling systems and composting systems (plastic or paper) there is also significant unavoidable material quality and quantity losses, and therefore considerable virgin input requirements.

PAPER RECYCLING for flexibles: Significant and inherent quality losses

- Mechanically recycled fibres have reduced fibre strength compared to virgin fibres.
- Given the material properties required to produce high-performance paper flexibles, an average of 10-50% mechanically recycled content is generally agreed to be the upper limit for paper B2C flexibles.
- In addition, many use cases for paper B2C flexibles require virgin content for safety (such as in food-grade).
- **As is the case for plastics, loss of quality within a mechanical recycling process limits the amount of mechanically recycled content that can be used in paper B2C flexibles and means that substitution to paper comes with significant, unavoidable virgin input requirements (e.g. between 50-100% of the fibres used in paper B2C flexibles will need to come from virgin sources).**

COMPOSTING SYSTEMS for flexibles: Inherent loss of the packaging material from the packaging system

- Composting a material involves breaking it all the way down into fundamental building blocks — for the most part, carbon dioxide and water.
- This means that for any packaging that is composted, the equivalent amount of virgin material is then required to make new packaging.
- Compostable packaging is most often designed as single-use.
- **Shifting to compostable packaging, while relevant in some applications, means shifting towards 100% virgin input requirements and is still ‘single-use’ in the same way that conventional Plastic and Paper B2C flexibles are.**

INNOVATIVE ELIMINATION & REUSE

4 KEY INSIGHTS

2

Upstream innovation provides a promising approach

A promising way to find a broader range of solutions is by investing in upstream innovation (such as innovative elimination and reuse). This means exploring the opportunity that exists in rethinking not only the packaging, but also the product and the delivery models. Inspiration can be found in the [Upstream Innovation Guide](#).

See following page for details and references



A promising way to find a broader range of solutions is by investing in upstream innovation that rethinks how products are delivered to users (such as innovative elimination and reuse).

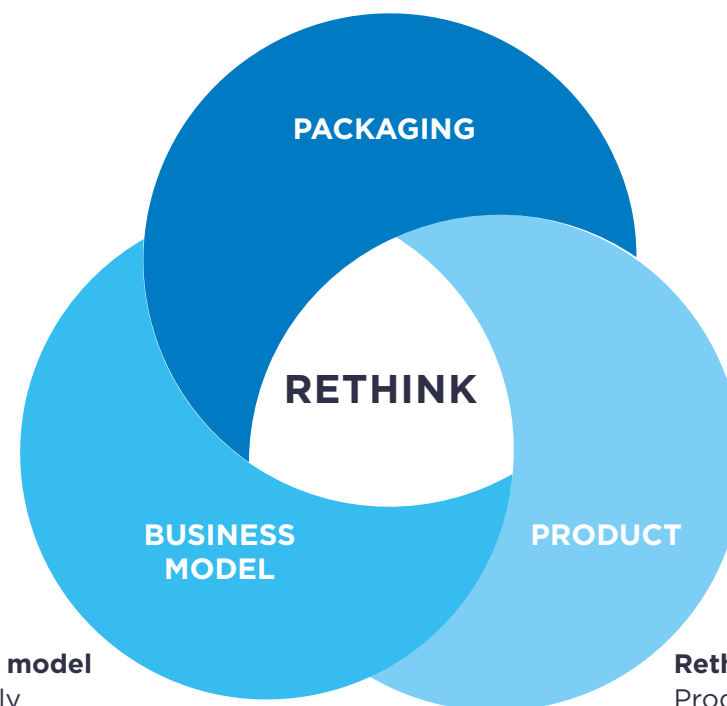
Upstream innovation is about preventing waste from ever being created in the first place.

To unlock the full opportunity of upstream innovation, it is necessary to move beyond focusing on incremental packaging improvements, towards **fundamentally rethinking how to best deliver products and services to a user**.

This involves rethinking not just the packaging itself, but also the product and the broader business model, with the aim being to identify new ways of delivering value to users, while **designing out waste** and avoiding unintended consequences.

Rethink the packaging

Packaging concept, format, components, material choice
E.g. edible coatings



Rethink the business model

Delivery model, supply chain, location of production, revenue streams
E.g. refill home care products

Rethink the product

Product formulation, concept, shape, size
E.g. edible coatings

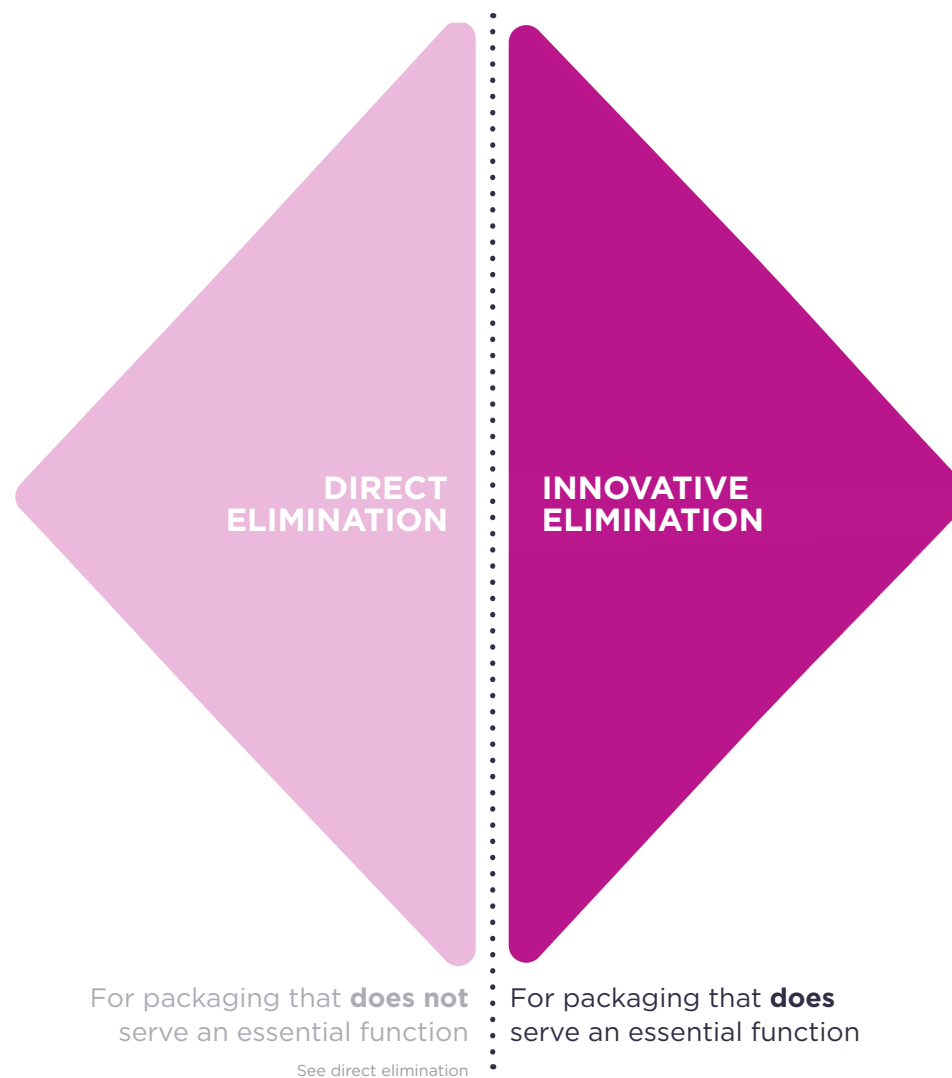
See the [Upstream Innovation Guide](#)
pp. 28-31 and 182-183 for more details

Packaging that **does** serve an essential function is **indirectly eliminated through innovation**, with the function being achieved in a different way.

Examples of functions that may be considered essential include necessary protection, containment, convenience, communication, and efficiency. Applying an upstream innovation mindset can uncover innovative ways in which such essential functions may be achieved in a different way.*

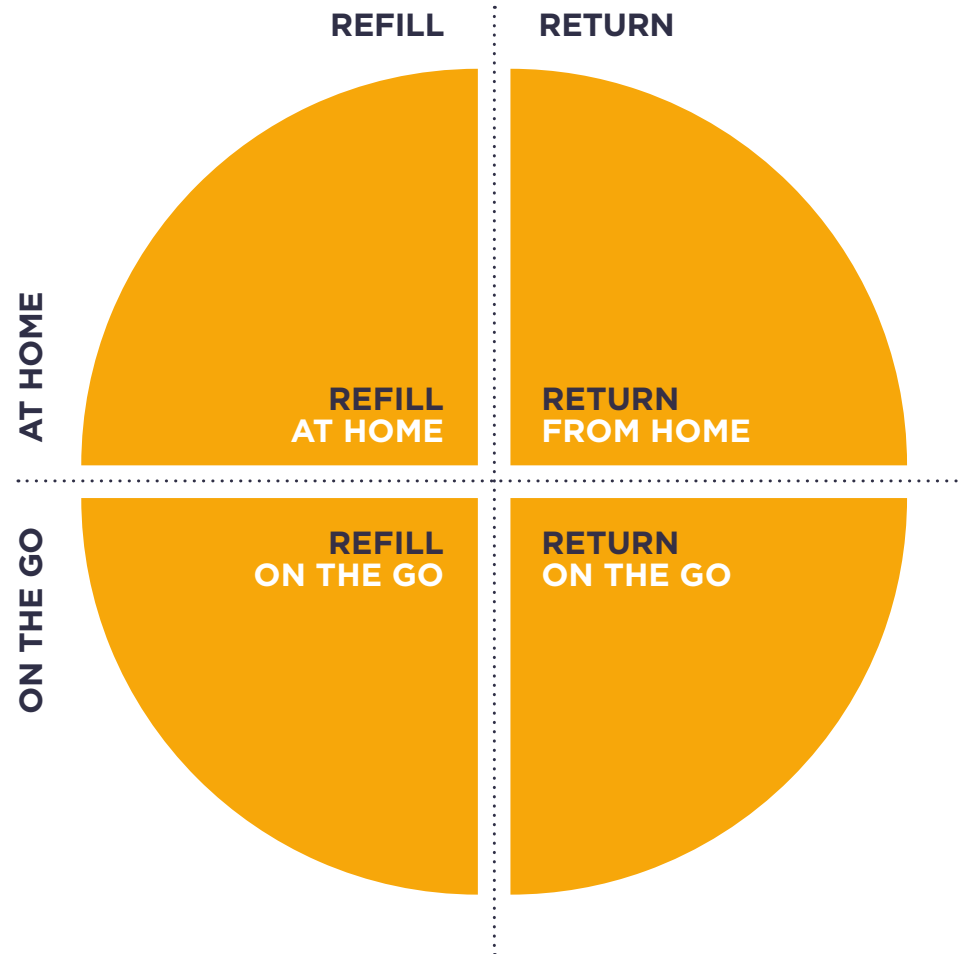
See the [Upstream Innovation Guide](#) pp. 40-43 and 50-71 for more details and inspiration

See the [Upstream Innovation ideation workshop template](#) for tools to support your upstream innovation journey



*While upstream innovation can also include actions related to material and packaging design (e.g. minimising head space, material choices, reduction of material through lightweighting, etc.) these are not considered to rethink how a product is delivered to a user, and as such, are not covered here. More information can be found on pp. 50-71 and 78-115 in the [Upstream Innovation Guide](#).

Reusable packaging is **designed to be used multiple times**, for its originally intended purpose, **as part of a dedicated system for reuse**. Reusable packaging is brought back into the economy through the washing of the entire intact packaging.*



See the [Upstream Innovation Guide](#) pp. 76-115 for more details and inspiration

See the [Upstream Innovation ideation workshop template](#) for tools to support your upstream innovation journey

*While upstream innovation can also include actions related to material and packaging design (e.g. minimising head space, material choices, reduction of material through lightweighting, etc.) these are not considered to rethink how a product is delivered to a user, and as such, are not covered here. More information can be found on pp. 50-71 and 78-115 in the [Upstream Innovation Guide](#).

INNOVATIVE ELIMINATION & REUSE

4 KEY INSIGHTS

3

There are innovative elimination and reuse solutions that could already have impact by 2025, while others show strong potential but will require longer timeframes and collaboration

Many upstream solution opportunities for flexibles have already been identified. A few of these solutions can be worked on relatively independently by businesses and could be scaled for relevant product categories by 2025, while others show strong potential as the systems of the future and may require collaboration over longer timelines to be realised. Both types of solutions are needed.

According to our panel of experts, solutions that can scale fast and achieve impact by 2025 include **edible coatings** (for fresh fruits and vegetables), **dissolvable packaging, and solid products** (for many home care and personal care products). In addition, **reuse for dried food products in Europe, and for personal care and home care products in SE Asia** were highlighted as of particular interest and an opportunity for collaborative action.

Note: Innovation is of particular importance in geographies serviced by the informal sector, where the uncertainty, risk, and timeframes associated with pursuing a recycling strategy are particularly significant, lowering the barriers to pursuing an innovation strategy ([see the informal recycling deepdive](#)).

See following page for details and references



There are solutions that could already be scaled by 2025 for their relevant product categories and others that show strong potential but require significant collaboration.

Five promising short and medium timeframe innovation opportunities as identified by an expert panel

Solutions that can be scaled fast and achieve impact by 2025

1. Water-soluble packaging

Approximate implementation time*: < 2 years

Particularly relevant for: home care products



2. Solid products

Approximate implementation time: < 2 years

Particularly relevant for: personal and home care products



3. Edible coatings

Approximate implementation time: 4-5 years

Particularly relevant for: fresh fruits and vegetables



See the [Upstream Innovation Guide](#) for more details, examples, and inspiration!

2022

2023

2024

2025

Solutions that are considered particularly promising opportunities for collaborative action**

4. Refill for dried foods in EU/US

5. Reuse for personal care and home care products in SE Asia

*The expert panel's assessment of how long it takes large companies to bring different innovative solutions to market for the relevant product categories. Implementation time meaning the time it takes to go from project initiation to the solution being widely available to consumers. Elimination of unnecessary packaging can be done in 1-3 years.

**Based on factors such as the suitability of the products for alternative delivery models, the potential for regulatory barriers, the extent of existing knowledge/work to build from, and the potential for having significant impact on material flows (i.e. significant reduction potential)

INNOVATIVE ELIMINATION & REUSE

4 KEY INSIGHTS

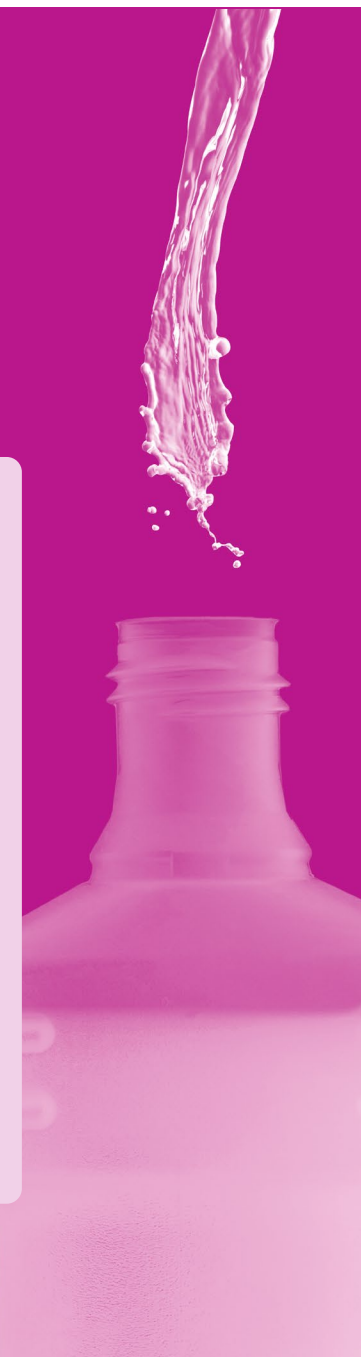
4

Individual and collaborative innovation efforts need to be urgently ramped up to explore and scale these opportunities in both the short and medium timeframe — current efforts are not sufficient

Inclusion of upstream innovation as a serious part of companies' flexible packaging strategies is currently not visible. Current innovation efforts to develop and scale solutions that eliminate the need for single-use flexibles are extremely small-scale. For example, of the sachets used to deliver personal care and home care products in SE Asia, **<0.001%** are currently being displaced by reuse models and scaling this percentage does not appear to be a core part of many companies' flexibles strategy.

Upstream innovation efforts, such as innovative elimination and return and refill reuse models, need to have a central role in any flexibles strategy and will have the greatest chance of succeeding if driven by ambitious targets and participation in collaborative action (see [page 25](#) for full details)

See following page for details and references



Inclusion of upstream innovation as a serious part of companies' flexible packaging strategies is currently not visible.

Across packaging categories, efforts on innovative elimination and reuse are minor, showing that upstream innovation is not yet appearing to be a serious part of the industry's strategy for reducing the need for single-use packaging.¹

For example, according to our calculations, innovative elimination and reuse solutions for personal care and home care products in SE Asia are still minor in comparison to flexible plastic packaging and this doesn't appear on track to change:

TODAY

Plastic sachets

Currently almost **146 billion plastic sachets**² are used per year to deliver personal care and home care products in SE Asia*



Reuse

Currently **<0.001%** of sachets used for personal care and home care products in SE Asia are being displaced per year through reuse efforts

This amounts to only **900,000 sachets**.*

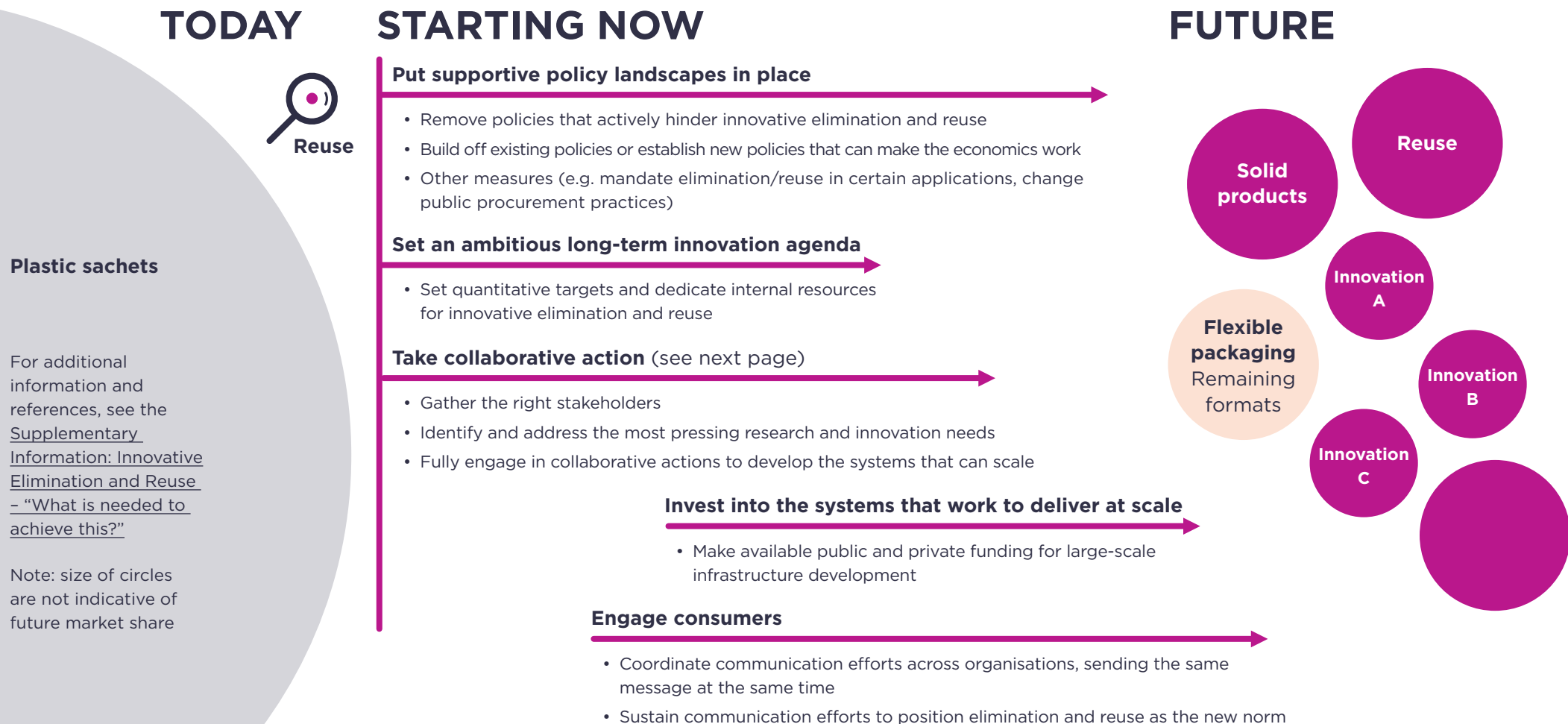
*For additional information and references, see the [Supplementary Information: Innovative Elimination and Reuse - "What does good look like?"](#)

1. [New Plastics Economy](#), [Global Commitment 2021 Progress Report](#)

2. [GAIA](#), [Sachet Economy: big problems in small packets](#) (2020)

Upstream innovation efforts need to have a central role in any flexibles strategy. Implementation of supportive policy landscapes, ambitious targets, and collaborative action is needed.

For example, to get innovative elimination and reuse for personal care and home care products to scale in SE Asia:



Collaborative efforts to develop the systems that can scale entail (but are not limited to):

Gathering the right stakeholders:

Relevant businesses (e.g. retailers), innovators, and experts are involved

Funding for innovation is accessible:

Government, VC, philanthropic, and business funding available

Creating collaborative initiatives to (specifically for reuse):

- Define and align on standards (e.g. for reusable packaging design, data tracking, etc.)
- Align on how to best measure reuse in order to improve ability to set quantitative targets (e.g. weight vs share of business)
- Share learnings (e.g. through dedicated reuse consortiums or working groups)
- Use learnings to continue to iterate processes to refine a particular system set-up

Collaborative efforts to develop the systems that can scale entail (but are not limited to):

Identifying and addressing research and innovation needs (specifically for reuse) to identify the ideal system(s) for a particular product category including:

Consumer viability: what will consumers require to engage with a reuse model?

- **For refill-on-the-go specifically:** how to increase convenience and the overall user experience? (i.e. foldable vs stackable packaging? Shared vs single-brand packaging? Combine with returnable packaging option? IoT integrated and smart dispensing units vs “traditional” bulk units?), what (economic) incentives are required?
- **For return models specifically:** what return options and incentives are necessary to engage consumers? (i.e. pick-up vs drop-off? Location and frequency of return points?)

Product safety and hygiene viability

- **For refill-on-the-go specifically:** what level of technology in dispensing machines is required to guarantee safety, hygiene, and accommodate legal restrictions (and how might this influence required policy changes?)

Environmental viability: environmental impacts and unintended consequences

- **For refill-on-the-go specifically:** if a single-use option (e.g. paper bag) is also offered at the refill site, is the model still environmentally viable? How to ensure that refill does not cause increase in food waste/spillage? How does the B2B supply chain need to be organised for the system to be viable?
- **For return models specifically:** What level of standardisation (packaging formats and infrastructure) is needed for the model to be viable?
- What is the role of flexible packaging in reuse systems?

Economic viability

- **For return models specifically:** What level of standardisation (packaging formats and infrastructure) is needed for the model to be viable?
- What are the financial investments needed to scale a particular system in a particular context?

Learn more about setting yourself up for success with upstream innovation, through the stories of four different organisations.

See the Upstream Innovation Guide for more details!

THE STORY BEGINS

Upstream momentum in Nestlé

The development of innovative, alternative delivery systems, such as bulk, reuse and refill options, are a key focus for Nestlé across several product categories. For example, the company was one of the first printers on the Loop platform (p.100) with a double-walled Häagen-Dazs ice cream container (see photo right) that has now become an iconic example of reusable packaging with increased functionality. Also, Nestlé is actively exploring what generative refill systems could look like, among others, through a partnership with the start-up **NRWA** to pilot plant-powered refill systems for Nescafé and just food (p.46).

COMMON-WIDE VISION AND TARGETS
Continuously raising the organisation's ambition levels to create sustainable innovation efforts

In 2018, Nestlé joined the Global Commitment and with that the organisation's ambition to create sustainable innovation efforts. In 2020, the organisation further defined an internal mission for packaging and created a demand for innovation across all product categories. In January 2020, Nestlé signed the ambitious goal of setting a target to reduce the use of virgin plastic by one-third by 2025. Nestlé has also explicitly included upstream innovation as a company commitment to developing a circular economy as its Corporate Business Principles (mandatory principles for all employees).

PATIENT CAPITAL
Extended funding for upstream innovation in the short term

Nestlé has established a CHF 200 million sustainable packaging venture fund to invest in start-ups. Additionally, Nestlé has invested in an incubator within the context of the Nestlé Institute of Packaging Sciences (see members dedicated to packaging innovation) and an R&D Accelerator in case of external and internal teams working on their innovations.

EXTERNAL INPUT
Creating several access points for external

Partnerships with start-ups such as NRWA and Loop are examples of healthy efforts to welcome good ideas from outside the organisation. Several access points have been created for external stakeholders to engage in the development and implementation of breakthrough packaging ideas. For example, the company has established a dedicated team for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas.

INNOVATION PROCESS TOOL
An agile innovation platform

The company has established an agile innovation platform that enables external partners to develop and implement ideas. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners.



UIG p.168

THE STORY BEGINS

X, the Moonshot Factory

One of the most iconic contemporary examples of disruptive innovation is "X, the Moonshot Factory" – the radical innovation engine behind Alphabet (parent company of Google). While the innovation space of X is much broader and quite different from this book, their approach can serve as inspiration on how to invent groundbreaking technologies and solutions.

EXTERNAL INPUT
Creating several access points for external

Partnerships with start-ups such as NRWA and Loop are examples of healthy efforts to welcome good ideas from outside the organisation. Several access points have been created for external stakeholders to engage in the development and implementation of breakthrough packaging ideas. For example, the company has established a dedicated team for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas.

INNOVATION PROCESS TOOL
An agile innovation platform

The company has established an agile innovation platform that enables external partners to develop and implement ideas. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners.



UIG p.170

THE STORY BEGINS

Coca-Cola's universal bottle

Coca-Cola is currently expanding distribution of PET bottles with a universal design. In 1981, the initiative evolved from an innovation, into a business process undertaken by a dedicated cross-functional team in Latin America. The team had one task: Come up with a solution that can make refill packaging formats more efficient. In less than a year, the universal bottle was in operation in many markets in Latin America. It is Coca-Cola's fastest growing packaging format and is being scaled to other continents.

COMMON-WIDE VISION AND TARGETS
Setting a growth expectation for upstream innovation

The launch of a company-wide vision of "World Without Waste", along with targets and a key role for the Global Commitment, served as an impetus for Coca-Cola Latin America to invest R&D efforts in packaging and setting up infrastructure for refillable bottles. In the process, refillable bottles represented the majority of waste in Latin America, as they represented an affordable, accessible, and easy-to-use packaging solution. While the company had been investing in sustainable packaging for years, the universal bottle was a game-changer. It was a simple, yet effective solution that addressed the waste problem in a way that was both affordable and accessible.

EXTERNAL INPUT
Creating several access points for external

Partnerships with start-ups such as NRWA and Loop are examples of healthy efforts to welcome good ideas from outside the organisation. Several access points have been created for external stakeholders to engage in the development and implementation of breakthrough packaging ideas. For example, the company has established a dedicated team for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas.

INNOVATION PROCESS TOOL
An agile innovation platform

The company has established an agile innovation platform that enables external partners to develop and implement ideas. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners.



UIG p.172

THE STORY BEGINS

Tesco's packaging strategy

Since the start of 2018, Tesco, the UK's largest retailer, has been on a journey to transform their approach to plastic packaging. The retailer has now established a successful process for continuous packaging innovation and has designated a store as a trialing new ideas.

COMMON-WIDE VISION AND TARGETS
Setting a growth expectation for upstream innovation

The launch of a company-wide vision of "World Without Waste", along with targets and a key role for the Global Commitment, served as an impetus for Tesco to invest R&D efforts in packaging and setting up infrastructure for refillable bottles. In the process, refillable bottles represented the majority of waste in Tesco's stores, as they represented an affordable, accessible, and easy-to-use packaging solution. While the company had been investing in sustainable packaging for years, the universal bottle was a game-changer. It was a simple, yet effective solution that addressed the waste problem in a way that was both affordable and accessible.

EXTERNAL INPUT
Creating several access points for external

Partnerships with start-ups such as NRWA and Loop are examples of healthy efforts to welcome good ideas from outside the organisation. Several access points have been created for external stakeholders to engage in the development and implementation of breakthrough packaging ideas. For example, the company has established a dedicated team for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas. The team's main design goal is to create a platform for external partners to develop and implement ideas.

INNOVATION PROCESS TOOL
An agile innovation platform

The company has established an agile innovation platform that enables external partners to develop and implement ideas. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners. The platform is designed to be flexible and adaptable to the needs of external partners.



UIG p.174

This work has been developed in collaboration with an expert panel consisting of more than **100 organisations** including relevant expert organisations and NGOs, [Plastics Pact](#) lead organisations, and members of the [New Plastics Economy](#) initiative (which includes many of the leading producers of packaged goods, and many of the largest retailers and packaging producers).

We are deeply grateful to all collaborators and contributors for the time and expertise they have dedicated to this project.

These organisations are not responsible for any of the recommendations presented in this work. This report is the work of, and solely reflects the views of, the Ellen MacArthur Foundation. The Foundation's views have been formed on the bases of existing literature, expert interviews, workshops with the expert panel, and in-house analysis.

Disclaimer

This publication has been produced by the Ellen MacArthur Foundation (the “Foundation”). Although the Foundation has exercised care and diligence in preparing this publication, based on information it believes to be reliable, the Foundation makes no representations and gives no warranties, assurances or undertakings (express or implied) in connection with it or any of its content (as to its accuracy, completeness, quality, fitness for any purpose, compliance with law, or otherwise). The Foundation does not monitor or moderate any external websites or resources linked or referred to in this publication. This publication does not purport to be comprehensive and none of its contents shall be construed as advice of any kind. Any reliance on it is at reader's own discretion and risk.

ELLEN MACARTHUR FOUNDATION PROJECT TEAM

CORE PROJECT TEAM

Leela Dilkes-Hoffman

Programme Manager –
Plastics Research and Innovation

Sara Wingstrand

External Consultant – Plastics Research and Innovation

George McLoughlin

Research Analyst – Plastics Research and Innovation

Josephine Moe Christoffersen

Senior Research Analyst –
Plastics Research and Innovation

Sander Defruyt

Lead – Plastics Initiative

Rob Opsomer

Executive Lead – Systemic Initiatives

PROJECT SUPPORT

The broader Plastics Initiative team

DESIGN

James Wrightson

Creative Design Lead – Design

Matt Barber

Graphic Designer – Design

EDITORIAL

Lena Gravis

Senior Expert – Editorial

Ross Findon

Media and Messaging Lead –
Communications & Marketing

Lou Waldegrave

Senior Writer – Communications & Marketing

COMMUNICATIONS

Iulia Strat

Communications Manager –
Finance, Plastics, and Policy

Anna Sheehan

Senior Communications Executive –
Finance, Plastics, and Policy

DIGITAL

**Dan Baldwin, Mark Buckley, Yunus Tunak,
James Woolven**, and the broader digital team.

ABOUT THE ELLEN MACARTHUR FOUNDATION

The Ellen MacArthur Foundation develops and promotes the idea of a circular economy.

The Ellen MacArthur Foundation is committed to the creation of a circular economy that tackles global challenges, such as climate change, biodiversity loss, waste, and pollution.

The Ellen MacArthur Foundation is an international charity that develops and promotes the circular economy in order to tackle some of the biggest challenges of our time, such as climate change, biodiversity loss, waste, and pollution. We work with our network of private and public sector decision-makers, as well as academia, to build capacity, explore collaborative opportunities, and design and develop circular economy initiatives and solutions. Increasingly based on renewable energy, a circular economy is driven by design to eliminate waste, circulate products and materials, and regenerate nature, to create resilience and prosperity for business, the environment, and society.

Further information:

www.ellenmacarthurfoundation.org | [@circulareconomy](https://twitter.com/circulareconomy)

ABOUT THE PLASTICS INITIATIVE

Since 2016, the Ellen MacArthur Foundation's New Plastics Economy initiative has rallied businesses, governments, and other organisations behind the vision of a circular economy for plastic, in which it never becomes waste or pollution.

Focused on ambitious targets for 2025, the Global Commitment addresses plastic waste and pollution at its source, beginning with plastic packaging, while the Plastics Pact network of local and regional (cross-border) initiatives, endorses and implements circular economy solutions that work towards the vision.

Further information:

www.emf.org/plastics | [@circulareconomy](https://twitter.com/circulareconomy)

[Explore the vision for a circular economy for plastic](#)



© COPYRIGHT 2022
ELLEN MACARTHUR FOUNDATION
www.ellenmacarthurfoundation.org
Charity Registration No.: 1130306
OSCR Registration No.: SC043120
Company No.: 6897785