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PACKAGING

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INTRODUCTION
SUSTAINABLE PACKAGING AND DELIVERY PLATFORMS

Digitisation of consumer services is happening at a rapid pace and scale, a key element of the 'fourth industrial revolution'[1]. The Covid-19 pandemic significantly accelerated this revolution with necessity to transition traditionally offline activities such as meetings, education, payments, and shopping to online.

We believe digitisation will continue to extend to all sectors and activities to meet human needs and improve our world, supported by promising technologies such as artificial intelligence and the Internet of Things (IoT). Companies and organisations that innovate and build digital platforms for online services are re-imagining our world, creating access to new users, and unlocking the not yet realised potential of technology.

Seizing these opportunities is what drives us at Naspers Prosus, investing in and building digital tech companies that empower people and enrich communities. The evolution of ecommerce transforming how services and products are accessed has had a snow-ball effect on further innovations in resource use and consumption, while also tackling basic social challenges such as access to education and financial services. For instance, egrocery company Oda commissioned a study that showed online grocery shopping can have a substantially lower carbon footprint than offline, physical world shopping for groceries[2].

In this report we delve into the use of packaging in the etail, food and grocery delivery companies – delivery platforms (see box 1 for a detailed description). We have established a set of practical principles for delivery platforms to increase the use of sustainable packaging and lower their waste footprint.

Delivery platforms create and capture new economic value and can scale innovation across markets. As conveners of supply and demand, they can influence business partners, such as brands, restaurants and other companies in their value chain, as well as consumers, to adopt strategies and practices for responsible and effective use of resources. This report explores how delivery platforms challenge the status quo and elevate the industry's standards for tackling the problem of packaging waste.

Our study starts with defining sustainable packaging, then articulates the unique position of delivery platforms and distils 10 Golden Rules for digital platforms to scale sustainable packaging. Each rule is underpinned by practical examples of how delivery platforms successfully apply them in their own value chain to reduce packaging waste.

We invite everyone, particularly sustainability managers, packaging professionals, marketing experts, and tech developers at digital platforms, to explore these rules and unlock the power of their platform to help scale sustainable packaging so that materials stay in our economy and away from our natural world. We welcome your thoughts and comments. Please contact us at **sustainability@prosus.com.**

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[1] Term coined by Klaus Schwab, founder of the World Economic Forum, in the book The Fourth Industrial Revolution.

[2] In 2021, Oda commissioned a study comparing the CO_2-footprint of having a grocery delivery from Oda (then called Kolonial.no) with shopping at a physical grocery store. The study showed that for an average customer in Norway who sometimes drives to the store, having food delivered can reduce the CO_2 footprint for the customer by a significant amount, up to 60%.

PRINCIPLES OF SUSTAINABLE PACKAGING

Packaging is omnipresent in our lives in a variety of materials and forms. The global packaging industry has experienced substantial growth in the last decade by adding value in many ways. However, packaging has also become a significant cause of concern for the environment. Even in the most remote regions of our planet, micro-plastic pollution is present[3]. Due to packaging waste's ubiquity in our daily lives and its environmental impacts, especially plastics, a growing trend toward sustainable packaging is abound.

Environmentally conscious consumers have recognised the enormous amounts of polluting packaging waste generated, and the demand to address the issue is becoming louder daily. As a result, several brands have jumped on the bandwagon regarding sustainable product offerings. Studies solidify that the changing consumer preference for sustainable packaging is high. For example, 60 to 70 per cent of (US) consumers said they would pay more for sustainable packaging (McKinsey, 2020).

In response to intensifying public concern about waste and fossil fuel-based packaging, governments worldwide have implemented an escalating number of legislations to combat this quandary. Many countries and geographic regions enacted bans on single-use plastics with varying levels of success. In addition to the outright ban, several end-producer responsibility laws require manufacturers to be accountable for the post-consumer waste generated through their products. The EU's green deal leads the way with many ambitious requirements on reduction, reuse and recyclability, requesting 10% of takeaway and ecommerce packaging to be reusable by 2030.

Sustainable packaging is no longer just recycling-focused. Instead, it has multiple dimensions to qualify – cost efficiencies, consumer preferences, enabling business growth, minimising environmental impact, and complying with regulations and market trends.

There are several industry-based niche definitions of sustainable packaging, as different situations call for different and unique solutions. Figure 1 highlights the areas in which companies should seek transformation, innovation and optimisation.
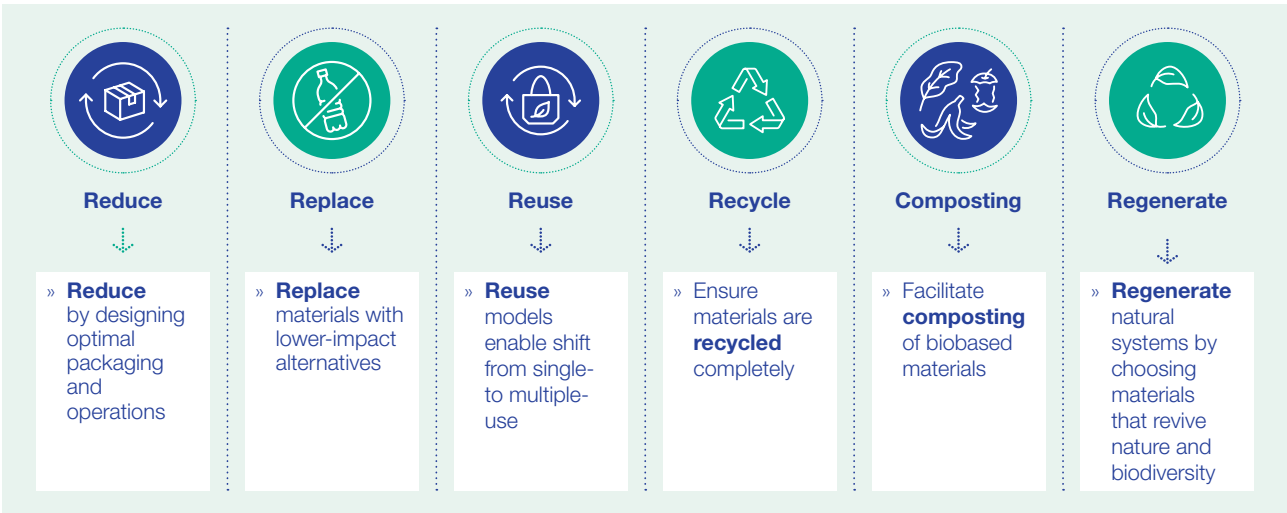
Figure 1 – sustainable packaging dimensions. Adapted from Sustainable Packaging Coalition, 2011

Important to note is that there is no global benchmark to measure packaging sustainability. The functionality, the market it is placed on, the waste management system it functions in, the user that receives it, and the prioritised environmental impact – all of these elements and more, influence the best mix of packaging dimensions choices.

In addition to these dimensions, a sustainable packaging strategy should incorporate the six sustainable packaging principles below. The principles reflect a holistic approach beyond a single focus area and can drive a series of actions that tackle multiple facets of design, procurement, waste management and material sourcing:

Figure 2 – six sustainable packaging principles

Reduce — » **Reduce** by designing optimal packaging and operations

Replace — » **Replace** materials with lower-impact alternatives

Reuse — » **Reuse** models enable shift from single- to multiple-use

Recycle — » Ensure materials are **recycled** completely

Composting — » Facilitate **composting** of biobased materials

Regenerate — » **Regenerate** natural systems by choosing materials that revive nature and biodiversity

The **Golden Rules to Scale Sustainable Packaging** described in this report reflect and incorporate both the sustainable packaging dimensions (Figure 1) and the sustainable packaging principles (Figure 2). The rules offer a set of strategic guidelines that platforms can use to define their suite of solutions and measures customised to the specific realities of each organisation. There is no 'one size fits all' solution to packaging sustainability. Multiple principles and dimensions must come together in chosen solutions and must be assessed against the impact generated through them.

The environmental performance of packaging should aim for the lowest possible environmental impact, with the least amount of waste and the highest rate of cycling of materials.

[3] https://www.sciencenews.org/article/plastics-remote-places-microplastics-earth-mount-everest.

THE ROLE OF DELIVERY PLATFORMS

This report focuses on sustainable packaging solutions for delivery platforms operating in two rapidly evolving ecommerce sectors: online food & grocery delivery and etail (see box 1). Driven by digital technologies and changing consumer habits, those sectors are growing steadily, **and their growth inevitably increases the use of packaging for deliveries. At the same time, due to their scale and convening power, platforms can play an accelerating role in changing the sustainability of packaging.**

The market for online food delivery services has more than tripled since 2017. According to market forecasts, it will continue experiencing significant growth driven by the expanding use of smartphones, soaring internet access and growing urbanisation (McKinsey & Company, 2021). Similarly, ecommerce sales doubled in 2015-2021 (Coppola, 2022) and are expected to double again by 2026 (Morgan Stanley Research, 2022).

Notably, a proportional increase in the amount of packaging used for transportation (Chua, 2021) that exacerbates the pressure on the environment, accompanies the rise of digital and specifically delivery platforms. (Li, Mirosa, & Bremer, 2020). For example, the global use of plastic packaging for ecommerce is expected to grow to an estimated weight of 4.5 billion pounds by 2025 (Tiseo, 2021). This growth increases environmental problems associated with packaging, in connection with both manufacturing and disposal.

Moreover, regional contexts and a lack of infrastructure might lead the packaging waste to be treated along with municipal solid waste (MSW), ending up in sanitary landfills, incineration facilities or open dumping. Sustainability regulations for packaging have become increasingly ambitious and go beyond bans on single-use plastics. However, regulatory progress is still somewhat dissimilar across distinct geographies. Thus, given that delivery platforms and their partners are present in multiple regions and interact with businesses and consumers at a large scale, **they must lead the way in achieving meaningful and transformational milestones towards a sustainable system for packaging.**

With the increased digitisation of markets, delivery platforms are becoming more vital to market growth. They are transforming how consumers purchase food, groceries and several other products. As a result, they are influencing both the consumer journey at large and how the market operates. Furthermore, platforms increasingly recognise their environmental responsibilities as their industries grow and they shape their sustainability strategy with packaging a key element to act on.

Platforms are powerful aggregators. They can set the rules of the marketplace, push the boundaries of sustainability efforts, and significantly help scale the innovation of materials and solutions.

They bring together relevant resources, products and consumers to efficiently create and exchange value. Engaging with a large user base can **boost the impact of actions taken in their own operations,** giving them traction and visibility otherwise complex to achieve. Platforms can also help build a more sustainable industry due to their ability to influence a broader value chain and multiple actors in the market. They can support partners and help them showcase their sustainability efforts while attracting sustainability-conscious consumers. They can also help differentiate from competitors and promote wider-scale adoption of sustainable solutions in three ways:

(1) Improving understanding and raising awareness

(2) Creating motivation and incentives

(3) Developing capabilities to implement new practices at a socially acceptable cost (Eric F. Lambin, 2020)

The next section provides 10 recommendations and real-world examples of success cases to scale packaging sustainability across delivery platforms' operations and value chains: the **10 Golden Rules to Scale Sustainable Packaging.**

Delivery platforms: business model and packaging use

Platforms connect the demand of users of the platform (mostly consumers, sometimes businesses) for a wide array of products – from a new dress to a secondhand bike, from a margarita pizza to a bottle of shampoo – with businesses that manufacture and sell these and take care of all aspects of the delivery of this product. The products can be proprietary to the digital platform or sourced from other brands.

The platforms' quality of service is the swift, secure and safe delivery of the product, including payment and aftercare, in case a consumer is dissatisfied with the product or delivery. The standard model is: after a consumer orders a product, the product is retrieved from a warehouse, a supermarket or a restaurant kitchen and handed to a delivery driver who completes the logistics and ensures that the consumer receives the product ordered. Delivery drivers can be in service of the platform (first party) or can be third-party providers. Variations to this model exist in focusing purely on the fulfilment of the order; retailers engage with the consumer, who then asks a fulfilment company to complete the order with the picking, packaging and shipping of a product.

Packaging is a critical element for the success of the delivery, ensuring the product(s) reach the end-consumer safely and securely.

Delivery platforms mostly use so-called secondary or transport packaging. In etail and grocery deliveries, these are often cardboard boxes or paper bags. Fillers or voids go in when boxes are larger than the product. In food delivery, plastic packaging keeps the prepared food safe and edible, with regulations often in place determining food-grade packaging.

A critical difference exists between the control over packaging by food delivery and etail and grocery delivery companies. The takeaway food container is typically the choice and control of the restaurant rather than the digital platform that receives the food order. This can be different in the so-called dark kitchens run by the digital platform. Therefore, etailers and grocery delivery companies have more influence over the choice of transportation packaging used.

Regulation is often dictating characteristics of packaging, such as defining what food-grade packaging – not seldom prohibiting the use of recycled content – to use in the delivery of freshly prepared food.

Because of the aggregation of supply and demand and their role in scaling online markets, delivery platforms can support business partners and help consumers opt for sustainable packaging and make responsible choices.
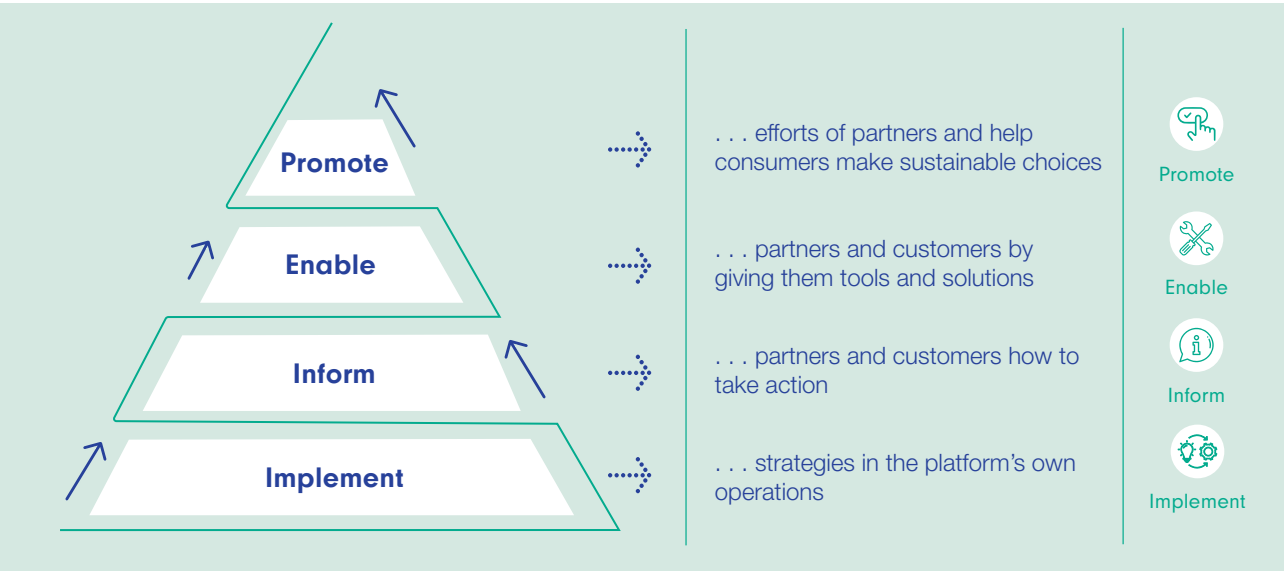
GOLDEN RULES FOR DELIVERY PLATFORMS TO SCALE SUSTAINABLE PACKAGING

Across industries, companies are increasing their commitments to medium- and long-term strategies of enhanced packaging recyclability, footprint reduction, increased renewable material usage and scaling reuse models.

However, it can be difficult to navigate the sea of business needs, regulatory requirements and sustainable options available. This section recommends **improved packaging sustainability for delivery platforms, the 10 Golden Rules to Scale Sustainable Packaging.**

The 10 Golden Rules take into consideration the dimensions of a sustainable packaging strategy (Figure 1) and develops the six sustainable packaging principles (Figure 2) to give delivery platforms guidance on how to build a packaging strategy that is effective and sustainable. The rules propose a systemic approach that encompasses four different scaling aspects available to delivery platforms:

Figure 3 – four ways to scale sustainable packaging

Promote	. . . efforts of partners and help consumers make sustainable choices
Enable	. . . partners and customers by giving them tools and solutions
Inform	. . . partners and customers how to take action
Implement	. . . strategies in the platform's own operations

For each Golden Rule, we showcase success cases of how companies in the industry have implemented the rules and innovated their operations. The examples show how the selected businesses are transforming how they operate to achieve less-impactful packaging and to build a collaborative and engaging society around the issue of packaging waste.

The Golden Rules to Scale Sustainable Packaging offer a general framework, and every company has to shape the successful application to fit the specific context of its organisation and market.

Figure 4 – 10 Golden Rules to scale sustainable packaging.

GOLDEN RULES FOR DELIVERY PLATFORMS TO SCALE SUSTAINABLE PACKAGING

1. **Reduce** packaging through design and logistics
2. **Remove** problematic and unnecessary elements
3. Reduce **virgin** material and increase recycled content
4. **Replace** petrochemical-based plastics with low-impact and regenerative materials
5. Adopt and scale **reuse** models
6. **Promote** sustainable options with partners and consumers
7. Calculate your packaging **footprint**
8. Raise awareness to improve **recycling** and composting
9. **Invest** in building infrastructure that captures materials and prevents waste
10. Create **scale** through collaboration

10 → GOLDEN RULES TO SCALE SUSTAINABLE PACKAGING

Reduce packaging through design and logistics

Design is a critical driver of sustainable packaging. Optimising packaging and operations that minimises waste is often a cost-effective, sustainable option.

IN PRACTICE:

- ## Ensure the low-weight and minimum size of packaging materials

  Etail businesses can adopt innovative techniques for folding products into smaller shapes to reduce the size of packaging required for each product. Likewise, food and grocery delivery operators can reduce the packaging thickness and avoid using multiple wraps per item.

  Do not forget: Reduce packaging material within limits allowed by its purpose without compromising the packaging itself, its content, or its recyclability. For example, lightweighting can lead to reduced quality of materials, leading to lower recyclability. A wasted product from inadequate packaging can have a greater environmental impact than avoided material.

- ## Consolidate orders and avoid overpackaging

  Consolidate orders by customer, where possible, to reduce not only packaging materials but also costs and emissions from shipping.

  Explore machine learning technology to optimise the use of boxes according to product size and weight. Technology can help define which products are suitable, for example, for flexible packaging, and allocate orders (especially orders with multiple items) to the most efficient packaging type in fulfilment centres.

- ## Design packaging for recyclability

  Design packaging to ensure the highest chance of collection, sorting and recycling. This covers materials and all components such as tapes, adhesives, labels and films. Where available, follow regional design guidelines aligned with existing recycling systems or point brands and manufacturers to the Golden Design Rules, a leading industry standard developed by the Consumer Good Forum.

- ## Encourage vendors through incentives to adopt packaging aligned with sustainable practices

  Offer incentives to third-party sellers who re-engineer their packaging to reduce volume and use less impactful materials. Incentives can be financial (a percentage of the value of the sale) or offer more visibility on the platform and marketing support.

SUCCESS CASE

Takealot ships certain categories of products such as air fryers and microwaves, in their original packaging, avoiding the use of transportation boxes, thereby eliminating the need for double packaging.

Equally, **Media24 Logistics** recommends its business partners to refrain from repacking bulky boxed items when they are sufficiently protected by their original packaging.

eMAG has been successfully consolidating orders to reduce the amount of packaging. Technology and automation, together with procurement of delivery boxes of different sizes, and increased efficiency in stocking, sorting, and consolidating, are substantially contributing to the reduction of packaging usage and waste. The newest eMAG warehouse in Romania is equipped with state-of-the-art stocking, sorting and consolidating technology. This helps increase efficiency and order consolidation contributing substantially to the reduction of packaging and packaging waste. Due to these innovations, eMAG was able to achieve a 20%+ packaging reduction compared to 2021.

ODA has developed a lightweight option to replace plastic boxes for grocery delivery: an easily stackable and stable cardboard box, easy to fold and sturdy enough to be reused by customers. This allowed for increased efficiency with less dead weight on vehicles, emission saving on transportation because of more orders being delivered in the same shipping, and reduced storage complexity in the warehouse due to the elimination of reverse logistics of reusable plastic boxes.

ODA LIGHTWEIGHT CARDBOARD BOXES

ODA has also removed plastic packaging on vegetables that are not sensitive to drying and damage, without resulting in an increase in food waste or negative effects on product quality.

Amazon's Frustration-Free Packaging (FFP) initiative certifies vendors that improve their packaging processes to reduce the overall weight of materials used. Vendors are offered incentives to:

(1) Prepare their products to be shipped without additional packaging ('Ship in Own Container')
(2) Re-engineer their packaging to reduce the overall volume
(3) Ensure packaging is fully recyclable and easy to open

Key:

Implement   Inform   Enable   Promote

Remove problematic and unnecessary elements

Eliminating unnecessary and problematic elements is a priority to achieve an effective circular economy for packaging. Remove plastics that can be avoided without compromising utility and eliminate problematic packaging in the light of recycling (such as multilayer plastics) and collection (likely to escape collection, such as small components).

IN PRACTICE:

- Implement an opt-in feature for disposable cutlery (and other disposable items such as napkins and straws) on food delivery platforms

  Opt-in feature as a default setting on food delivery platforms for **cutlery[4], meaning customers only receive these when they explicitly ask for them.** Having customers make an active choice to request disposables, results in a significant reduction of disposable items requested compared to an opt-out feature.

- Remove the most problematic elements from packaging

  Examples of industry-wide recognised problematic elements include[5]:

  » **Undetectable carbon black,** undetectable in the sorting process when using Near Infra-Red (NIR) technology, which is widely used in recycling systems

  » **PVC or PVDC,** as they can disrupt the recycling of other types of plastic

  » **EPS, or PS,** is too uncommon to make recycling economically and operationally viable

  » **PETG in rigid plastic packaging** contaminates plastic recycling streams, lowering the value of recycled PET

  » **Oxo- and photo-degradable plastics** are deemed sources of microplastic pollution and are unsuited for long-term use, large-scale recycling, or composting

- Strive for only mono-material packaging

  Choose to avoid, where possible, multi-material packaging. Combinations of materials pose significant challenges in collection and recycling, and the difficulty in separating materials can make recycling less financially viable.

- Avoid harmful substances and chemicals in coatings and prints

  PFAS (Per- and poly-fluoroalkyl substances) are used in food packaging to prevent grease and water from penetrating food wrappers and containers and in ink printed on containers. However, scientific studies show they might link to harmful health effects in humans and animals. Therefore, explore bio-based and compostable alternative materials increasingly being developed at a larger scale. Another alternative solution is bio- or water-based dispersion coating, a type of barrier coating that provides barrier properties to fibre-based materials. In addition, it is a mono-material and easier to recycle since there is no need to separate the coating from the base material before recycling.

[4] Including straws and potentially, sachets.
[5] See for more examples: Ellen MacArthur Foundation, 2020, The Consumer Goods Forum, 2021.

SUCCESS CASE

Removing problematic elements from packaging and avoiding harmful substances help ensure that materials with high recycling value are produced and recycled in practice.

Media24 Logistics has replaced unrecyclable plastic void fill with paper void fill and unrecyclable plastic tape with paper tape in their logistics packaging

Under the programme Amigos da Natureza, **iFood** enables partner restaurants to choose between two options: do not provide cutlery to customers, or allow the opt-in. Via opt-out features, the rejection rate for cutleries reached 80%+. iFood has also banned EPS (extruded polystyrene) in its iFood Shop packaging marketplace.

JustEat/Takeaway in collaboration with Notpla, developed a packaging made with a liner that uses seaweed, and claims it is as greaseproof and water resistant as a plastic liner, and degradable in 29 days. This coating replaces harmful coatings but also traditional bio-based and plastic coatings that generally render containers non-recyclable.

Takealot and **iFood** have investigated the possibility of introducing oxo-degradable materials to replace traditional packaging materials, for its claims of biodegradability. After performing due diligence and having gathered extensive information, they decided not to adopt the material and follow the international consensus of major organisations, academics and institutions (such as the European Union), that discourage (or in some cases prohibit) its use in packaging.

SEAWEED BASED PACKAGING

Key:

Implement   Inform   Enable   Promote

GOLDEN RULE TO SCALE SUSTAINABLE PACKAGING 3

Reduce virgin material and increase recycled content

Set virgin[6] material reduction targets to decrease the total weight of virgin materials used in packaging. Those efforts should support reducing packaging mass (GR1), eliminating unnecessary and problematic elements (GR2) and increasing post-consumer recycled content.

Effective recycling is essential to a holistic, sustainable packaging strategy, but recycling systems worldwide are struggling to keep up with the volumes of materials to process. Infrastructure for collection and sorting are often under-invested, economic incentives for recycling are absent, or end-consumers lack the ability or knowledge to play their part. Companies should prioritise solutions that address the packaging problem at the source by aiming for absolute reduction (GR1 and GR2) and thereby reduce the volumes of materials that need to be processed, as well as use post-consumer recycled content where necessary, to help close the loop on materials and circle them back into use.

IN PRACTICE:

- After reducing packaging mass where possible and eliminating problematic and unnecessary materials, set targets and pursue the reduction of virgin material use where packaging is unavoidable

A way to decrease the use of virgin materials in packaging is by increasing the share of post-consumer[7] recycled content in the packaging used. In the case of plastics, using recycled plastic decreases reliance on fossil fuels. It reduces the use of natural resources by giving a second life to materials already circulating in the economy. Recycling is more energy-efficient than producing virgin plastic and reduces the volumes of discarded materials. Voluntary industry commitments by the private sector, public procurement policies and regulations, can create demand for recycled plastics (Ellen MacArthur Foundation, 2017), which would, in turn, drive investments and improvements in the high-quality collection and recycling processes needed to create valuable materials.

SUCCESS CASE

After assessing the carbon footprint of different alternatives, **ODA** introduced recycled plastic bags to be used for frozen food, replacing virgin plastic bags. As a next step, the company is looking at alternative materials' performance in terms of functionality, efficiency, and environmental footprint.

eMAG has been gradually increasing the recycled content it its courier plastic bags, from 20% to a current 50%.

Key:

🔧 Implement   ℹ️ Inform   ✖️ Enable   📢 Promote

[6] Raw, newly sourced or produced material, rather than recycled.

[7] Post-consumer plastics are recycled plastics that have been collected from end-users and recycled into new materials for producing packaging.

GOLDEN RULE TO SCALE SUSTAINABLE PACKAGING (4)

Replace petrochemical-based plastics with low-impact and regenerative materials

Choose low-impact materials for your packaging and provide them to your partners as affordable options to make innovative solutions accessible at a larger scale. As powerful aggregators, platforms can use their scaling force to make sustainable innovations, and new materials, affordable and mainstream.

IN PRACTICE:

- Choose low-impact materials for your packaging and foster innovation in regenerative materials
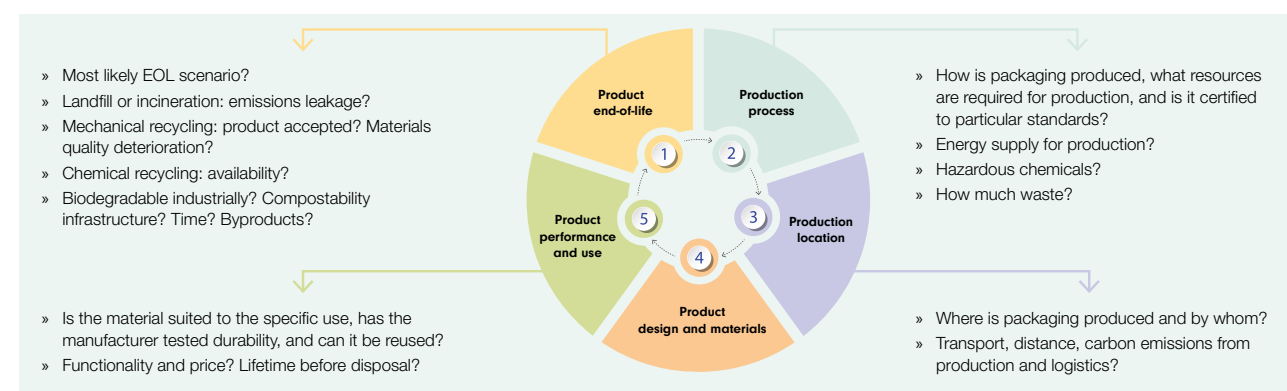
  This means:
  - » Choosing a material and a packaging design that can be effectively collected, sorted, and circulated through a recycling route
  - » Choosing a material and packaging design that can be circulated through a composting route
  - » Test, support, and help scale regenerative materials that contribute to systems that renew or replenish themselves[8]

  Adapted from Ellen MacArthur Foundation, 2020

- Provide those materials to your partners as affordable options to make innovation accessible at a larger scale

  Evaluate and test new materials (e.g. compostable materials) or solutions (e.g. reuse systems – GR5) and leverage the function of a platform to offer sustainable packaging options to partners at affordable prices. As aggregators, delivery platforms can significantly reduce market entry barriers, such as transaction and adoption costs (like search efforts, customer lock-in and financing) and facilitate large-scale adoption.

Figure 5 – Elements for consideration when choosing alternative materials.

- » Most likely EOL scenario?
- » Landfill or incineration: emissions leakage?
- » Mechanical recycling: product accepted? Materials quality deterioration?
- » Chemical recycling: availability?
- » Biodegradable industrially? Compostability infrastructure? Time? Byproducts?

- » Is the material suited to the specific use, has the manufacturer tested durability, and can it be reused?
- » Functionality and price? Lifetime before disposal?

- » How is packaging produced, what resources are required for production, and is it certified to particular standards?
- » Energy supply for production?
- » Hazardous chemicals?
- » How much waste?

- » Where is packaging produced and by whom?
- » Transport, distance, carbon emissions from production and logistics?

Product end-of-life (1) · Production process (2) · Production location (3) · Product design and materials (4) · Product performance and use (5)

Do not forget: Always evaluate the environmental impact across the entire value chain when substituting packaging material (Figure 5). Alternative materials should be selected based on a detailed evaluation of different aspects across the material value chain and lifecycle. For example, the option of compostable materials, needs to be assessed by geographical area, as they require adequate composting infrastructure for correct disposal. Those materials are not intended for recycling and, if intermixed, can contaminate recycling streams and compromise the recyclability of non-compostable, fossil-based plastics. Therefore, the implementation region should have a functioning composting system, and consumers should be able to identify the correct end-of-life and act accordingly.

[8] *Regeneration is an approach to materials that create positive outcomes for nature. The outcomes include, but are not limited to, healthy and stable soils, improved local biodiversity, improved air and water quality, and higher levels of carbon sequestration (Ellen MacArthur Foundation, 2021).*

SUCCESS CASE

iFood is exploring economically viable and environmentally friendly packaging alternatives to reduce plastic use for food delivery. Examples include paperboard with sustainable grease and water barrier, water-resistant paper bags, and corn husk pulp. Those alternative materials are developed with industry partners and tested in selected restaurants across different areas of the business. In the case of corn husk packaging, iFood is subsidising part of the cost of the new packaging material, to scale adoption by its partners and at the same time support the packaging producer in increasing production and productivity, to achieve a lower price point.

IFOOD'S CORN HUSK PACKAGING

Delivery Hero's Green2Go initiative was created to help partner restaurants to choose the best-suited and least impactful packaging, without sacrificing on customers' and restaurants' experience. The company is running pilots with partner restaurants and riders, to assess location- and partner-specific solutions, and is doing selective laboratory testing per material category and supplier. Delivery Hero is using its role as an aggregator to screen suppliers and negotiate volumes, looking at pooling demand in some countries, evaluate material strategy by region and country. The focus is also on creating value for restaurants by helping them utilise their own data and operational insights to select the best items and how to utilise them to generate revenue.

To provide business partners with alternatives to conventional packaging, **Delivery Hero** has also launched a globally scalable Sustainable Packaging Programme that focuses on supplying plant/based and PFA-free solutions to restaurants. By aggregating demand across markets the company aims to leverage large volumes and achieve competitive prices to be offered to partners via its online packaging marketplace.

Key:

Implement · Inform · Enable · Promote

GOLDEN RULE TO SCALE SUSTAINABLE PACKAGING ⑤

Adopt and scale reuse models

Reuse models can bring superior user experiences, insights, brand loyalty and cost savings. As the success of the model hinges on a high level of reuse in practice and on the size of the user base (in terms of end consumers and partner outlets), adoption by delivery platforms can exponentially enable scale and viability. Pilots should be set up based on proven best practices to achieve positive results.

Do not forget: Studies differ in comparing reusable and single-use options' environmental performance, with most favouring the first. However, it is prudent to note that results depend strongly on parameters such as the setup of delivery systems and how many times containers are reused. Furthermore, with limited successful reuse systems in operations, it is challenging to compare single-use versus reuse models' environmental benefits and costs.

IN PRACTICE:[9]

- **Start in-house**

  Introduce reusable models within own operations. Reverse logistics for warehouse and in-store operations can be a very effective system, especially in large-volume applications. For example, explore reusable options for pallets, pallet wraps, and mailers.

- **Rely on an external service provider to support logistics and technology**

  Partner with specialised third-party services that provide a functional and easy-to-use online platform and offer functional and convenient return logistics and infrastructure based on short-distance logistics loops. This eliminates the need to establish and manage complex return logistics, washing services and owning a pool of reusable containers. The partner should also guarantee the functionality of their offline product: different types and sizes of containers. In addition, delivery platforms with a proprietary delivery fleet can add take-back systems to their commercial offerings.

- **Choose a system with a reliable digital infrastructure**

  QR codes and digital tags are used to gather data on the product along the supply chain. They allow tracking individual containers and calculating container lifespan and return rates from customers (important factors for measuring the success of replacing single-use packaging). Additionally, as the environmental footprint of reusable containers depends on the number of uses, accurate accounting is core to impact assessment. Digital tools can also verify the cleaning between refills and returns, facilitate the transactions between businesses and consumers, and optimise logistics planning.

When reusable models are introduced for consumer-facing businesses:

- **Use a deposit system or alternative incentives to ensure returns**

  Deposits-refund systems incentivise returns and prevent litter and reduce costs if the packaging is not returned. The system should offer a competitive deposit value that truly incentivises consumers to return their containers, which is at the same time affordable and equitable.

- **Reward consumers for choosing reusable options**

  Use digital tools and apps to keep users engaged in the system long term. Reward consumers by offering credits towards their next purchase when they return used packaging. Allow them to acquire credits and check their points and savings, as not all consumers will choose reusable systems for sustainability reasons. For the ones who do, track the environmental savings generated by choosing reusable as an alternative to single use.

[9] *Read more: Reuse – Rethink Packaging, Ellen MacArthur Foundation.*

SUCCESS CASE

Since 2020, **Swiggy** is partnering with InfinityBox, a startup offering reusable food containers. The pilot is currently available in five partner restaurants in the city of Bengaluru, serving ~500 orders per day with adoption and retention rates at around 70%. InfinityBox manages reverse logistics by offering pick-up services to customers (right after delivery, at the next delivery or by scheduling pick-up) and installing QR-code activated smart bins for returns. InfinityBox also takes care of washing and sanitation. The reusable option has no additional charge to the customer and boxes can be reused between 100 and 200 times. Restaurants pay a fee to InfinityBox for each order served in reusable containers.
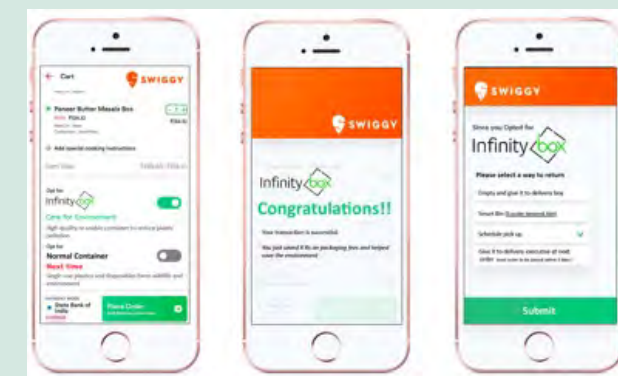
INFINITYBOX INTEGRATION WITH SWIGGY'S APP

Swiggy is also testing reusable insulation pouches for its quick commerce business, Instamart. For specific grocery items such as eggs and ice-cream, Instamart has replaced plastic bubble-wrap with insulation pouches. The pilot started in ~8% of its micro-fulfilment centres, with plans for gradual expansion.

Takealot suppliers' deliver goods on their own pallet to the company's warehouses. Roll cages and hyper cages are reused within the Takealot Delivery Network: orders are packed into the roll cages at dispatch and delivered to the hubs. At the hubs, customer returns, damages and orders that could not be delivered are packed back into the roll cages, which are brought back to the distribution centre on returning delivery trucks. The company is also exploring the adoption of reusable pallet wraps in the form of elasticated pallet netting that can provide the same load security as traditional plastic wraps. This solution could eliminate the cost of purchasing and disposing of used plastic films.

foodpanda has initiated a reusable packaging pilot in Hong Kong. The pilot was launched in September 2022 in partnership with the World Wide Fund for Nature (WWF) in Hong Kong. Customers can order reusable containers at specific restaurant partners by selecting food items from the restaurants' 'Reusable Packaging' menu category in the foodpanda app. The service is available for both delivery and pick-up. After use, rinsed containers can be dropped in collection machines available in different areas of the city, and collect the initial deposit paid for the container or receive a foodpanda voucher for every container returned.

FOODPANDA COLLECTING STATION IN HONG KONG

Key:

⚙ Implement		ⓘ Inform	✕ Enable	⟳ Promote

GOLDEN RULE TO SCALE SUSTAINABLE PACKAGING ⑥

Promote sustainable options with partners and consumers

Delivery platforms can steer their partners and consumers to make sustainable choices. In addition, as consumers increasingly demand more environmentally and socially conscious options and businesses transform their operations to meet market needs, platforms can facilitate the interaction between supply and demand.

IN PRACTICE:

- **Offer consumers an easy way to identify and shop for more sustainable options and steer sustainable choices in the industry**

  Actively vet partners' sustainability efforts and help users identify sustainable options more easily. Assess, verify and rate sustainability practices based on a proper methodology, and define transparent rules for data gathering. Information can be requested directly from partners or collected via consumers' feedback, for example, on the type and quantity of packaging received. Introducing filtering options and visual identifiers (such as badges) based on sustainability performance encourages partners to pay more attention to sustainable practices in their operations and gives customers better access to sustainable purchase options. As part of the programme, offer educational resources to support partners in improving the sustainability of their business.

SUCCESS CASE

Delivery Hero's foodpanda, operating in 12 markets across Asia, launched a Green Label initiative, that certifies restaurants on sustainability performance. Based on assessment criteria developed by Delivery Hero and reviewed and endorsed by WWF Hong Kong, partner restaurants can apply to be assessed and


FOODPANDA GREEN LABEL

audited by the non-governmental organisation Zero Waste SG, and receive different levels of accreditations (bronze, silver, gold) based on the execution of sustainability strategies. Assessment takes into consideration eight areas: conscious food, sustainable packaging, waste reduction, food waste, social welfare, carbon reduction, awareness and education, and power supply. The accreditation is showcased on the foodpanda app, and restaurants receive complementary marketing, educational workshops, and additional support to improve and expand their green practices.

Amazon's Climate Pledge Friendly programme intends to give customers tools to discover and shop for more sustainable products. The Climate Friendly badge on the website showcases products that are certified by at least one among selected different sustainability certifications. Participating products also have additional sustainability information on their product page and are

AMAZON'S CLIMATE PLEDGE FRIENDLY BADGE

featured in a dedicated section on Amazon's website. As part of the programme, Amazon partnered with third-party certifiers to launch two own labels: Compact by Design, to highlight products with a more efficient design, and Pre-Owned certified, for refurbished products that have been inspected and tested by Amazon-qualified suppliers.

iFood programme Amigos da Natureza, participating restaurants (Golden Rule 1) are recognised on the app by a green label associated with their names, serving consumers that do not want to receive unnecessary plastic in their orders.
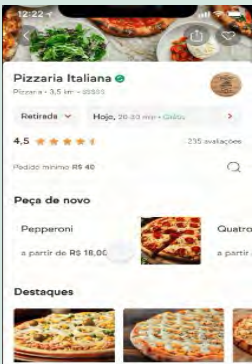
IFOOD'S GREEN LABEL (BEHIND RESTAURANT NAME)

Key:

◉ Implement   ⓘ Inform   ✕ Enable   ✋ Promote

Calculate your packaging footprint

Sustainable packaging is functional packaging with the least environmental impact possible, with the least amount of waste and the highest rate of cycling of materials. Therefore, packaging footprint assessments are needed to understand the impact of packaging at every stage, from design to disposal.

IN PRACTICE:

- Account for and potentially disclose packaging volumes per country and material type

  Understand the environmental impact of packaging for various metrics like GHG emissions, water use, chemical use, etcetera and consider disclosing the values per country and packaging material. Look for an industry-aligned and previously used and tested methodology, and make sure the calculation covers the entire packaging lifecycle, from manufacturing to end-of-life. Then, use the results as input for your packaging strategy and the Golden Rules to Scale Sustainable Packaging.

SUCCESS CASE

iFood is working with external consultants to assess end-of-life scenarios for a variety of packaging alternatives, and analysed options based on climate change, water consumption, accumulated energy demand, waste generation and environmental footprint. Results allowed comparison of packaging alternatives based on their overall environmental impact, also taking into consideration production location and recycling rates in local markets.

Key:

⚙ Implement	ⓘ Inform
✄ Enable	✍ Promote

Raise awareness to improve recycling and composting

Consumers play an important role in the effective and sustainable disposal of packaging, but they often lack knowledge or access to dispose of it properly. By including recycling, composting and reuse instructions on the packaging, websites and other communication channels, platforms can increase packaging materials' reuse, recycling and composting.

IN PRACTICE:

- Provide clear instructions on packaging and support your partners in doing the same, considering different geographical realities

  Instructions should follow standardised guidelines (provided by numerous emerging initiatives) and be clear, visible and accurate. They should be provided locally to reflect local recycling programmes and regulations. If programmes differ by location, ensure the packaging composition is as detailed as possible.

  Do not forget: it should never be the approach to put the full burden for responsible disposal and recycling on consumers. Consumers can only play a part within the wider packaging and waste ecosystem they find themselves in, which is primarily shaped by governments and the businesses that manufacture, use and recycle packaging.

- Develop digital tools to inform consumers

  Provide consumers with educational content about materials, recycling and end-of-life. The information should be easily accessible and understandable and cover high-level information (for example, what kind of materials generate more waste in home delivery of food) and more in-depth tools (for example, disposal guidelines and location of recycling infrastructures).

SUCCESS CASE

iFood has developed Recicla Bot, a WhatsApp bot with educational content for consumers. Via the tool, consumers can ask questions to the Artificial Intelligence tool about recycling actions, product recyclability and location of disposal points. iFood packaging also is provided with a QR code that directs to the bot, where users can inquire about the recyclability of the packaging material.
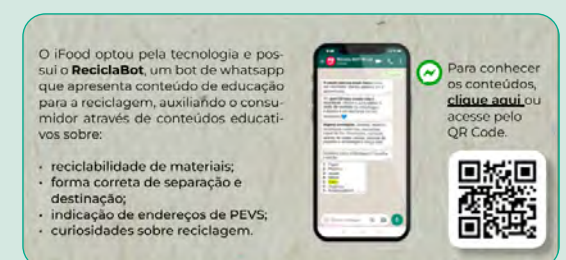
IFOOD RECYCLING BOT AND QR CODE ON PACKAGING

SUCCESS CASE

Takealot ensures that all their paper packaging suppliers are FSC certified and registered and promotes recycling instructions on packaging. In practice, the companies validate suppliers' certifications and have added the FSC logo and recycling information on their corrugated boxes.
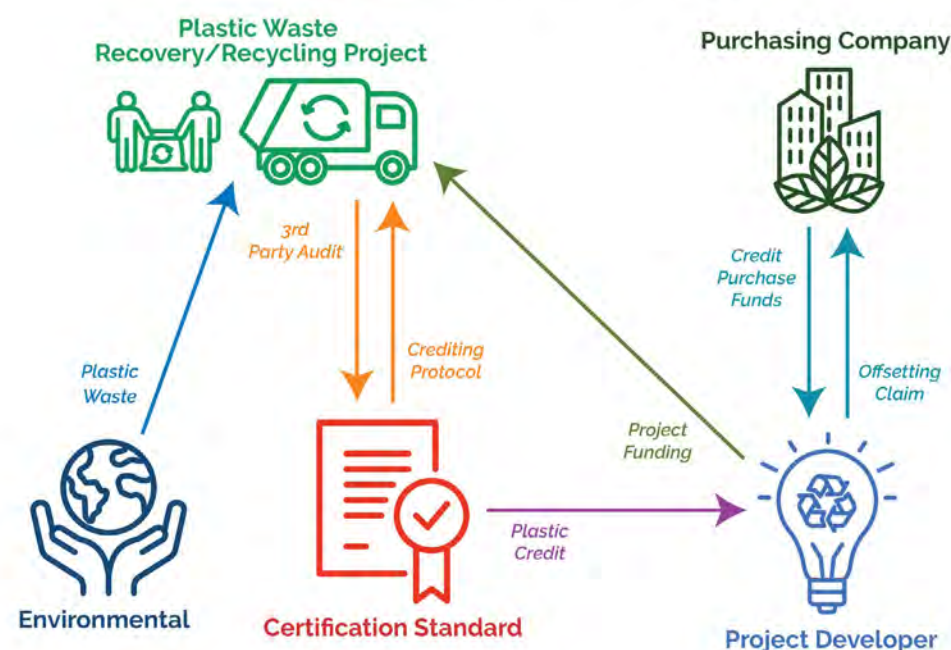
Oda follows the same practice and additionally prints recycling and folding instructions on its boxes.

TAKEALOT ON-PACK RECYCLING INSTRUCTIONS

PLASTIC CREDIT CREATION

POSSIBLE PLASTIC CREDIT SCHEME (GR9).
SOURCE: CLIMECO

Key:

Implement Inform Enable Promote

Invest in building infrastructure that captures materials and prevents waste

Effective packaging systems require collaboration along the materials' value chain, inclusive participation from and investments by manufacturers, brands, waste collectors, recyclers, consumers and governments. Parties should identify the levers to increase the effectiveness of the packaging system and set up projects, fund investments in infrastructure and align on materials, design, processes and ways of working.

IN PRACTICE:

As part of a successful plan, measure total packaging usage in combination with the landfill, incineration, leakage and recycling/composting rates on a regional level. Reduce packaging use by following the principles described in this paper and contribute to building a circular economy for packaging in various ways. Collaborate with the formal sector, like recycling facilities and with the informal sector, like waste picker organisations, **to increase waste management infrastructure or finance packaging waste collection and recycling.**

Extended Producer Responsibility (EPR) systems are successful and effective schemes to finance the collection and recycling by organisations that produce and place packaging on the market (WWF, Plastic Smart Cities, s.f.). Where mandatory EPR schemes are in place, fees are collected and managed by a system operator that uses them to fund packaging waste management-related activities.

Companies can adopt voluntary actions when mandatory systems are limited or lacking, and no effective recycling system exists. Platforms should learn about local recyclers' work, adapt packaging designs to local standards, and work with the formal and informal sectors to ensure high rates of collection and sorting of waste. This collaboration can also provide additional benefits, such as community development and biodiversity protection, and support the achievement of the UN Sustainable Development Goals.

Another voluntary system is the purchase of plastic credits. Plastic credits can be a powerful financial mechanism to fund waste collection. If developed appropriately, following guidelines from WWF, ISEAL and other relevant institutions, they can potentially drive investment towards circular systems. As part of a holistic plastic reduction strategy, companies can choose crediting systems to bring investment and improve waste management infrastructure in especially vulnerable ecosystems and towards collecting and recycling of low-value plastic waste (WWF, 2021).[10] Well-designed, verified and transparent credit systems, including a match of the region where packaging is put on the market and where credits are generated, as well as match of packaging material used and recycled, can lead to companies claiming they ensure a high percentage of collection and recycling of their packaging, potentially even mimicking a closed loop system.

[10] *Read more about how to choose the right offsetting partners and projects: WWF Position: Plastic Crediting and Plastic Neutrality – WWF. Plastic Waste Reduction Standard – Verra.*

SUCCESS CASE

Alaska Milk Corporation (AMC, a FrieslandCampina company) received a certification from the Plastic Credit Exchange (PCX) as Net Zero Plastic Waste Brand. The status certifies that AMC has fully complied with the requirements of this status as specified under the Plastic Pollution Reduction Standard (PPRS). The amount of plastic used by AMC in 2021 was reclaimed through the recovery project Wrapper Redemption Programme, an initiative that encourages communities to collect and upcycle single-use plastic in exchange for Alaska Milk products in collaboration with various local government entities. The company also announced the target of being a plastic-negative manufacturing corporation in the next few years, targeting 200% plastic recovery of the waste it generates.

Takealot has installed recycling stations for cardboard boxes at its two flagship pickup points. Recycling bins are provided for customers to dispose of unwanted Takealot or Superbalist packaging. After they pick up their orders, consumers can immediately place their corrugated box in the recycling bin once they have opened their package. Takealot works with an external service provider to collect, bail, and recycle the boxes. After the first pilot's success,

TAKEALOT COLLECTION STATION

the company plans to roll out to 90 new pickup points. Takealot also recycles 98%+ of onsite waste through a local recycling company, that also tracks KPIs such as trees, oil, water and landfill, and energy saved from recycling.

M24 Logistics has invested in onsite conveyor systems sorting and bailing of plastics and cardboard boxes at its warehouses to manage all its inbound packaging. More than 98% of all packaging material is recycled by an external service provider.

iFood sponsors projects to promote correct waste disposal in Brazil, in collaboration with private companies and public institutions, with the aim of stimulating the development of new solutions for waste and promoting circular initiatives. iFood has:

» Established 100+ voluntary delivery points in three cities in Brazil to encourage and facilitate correct waste disposal.

» Launched a guide to support cities in waste management: 'Guide for a Model City in Waste Management and Recycling'. The publication is meant to guide municipalities to engage in effective recycling actions.

» Supports six recycling programmes in different cities in Brazil, with a particular focus on the social aspect. In some areas, the company finances the installation of collection centres in low-income neighbourhoods and provides use incentives to the population in the form of iFood cards, public transportation credit and others.

Key:

⚙ Implement   ⓘ Inform   ✕ Enable   ⟲ Promote

Create scale through collaboration

Collaboration is critical to solving the systemic and challenging problem of packaging waste. As a platform, seek ways to work alongside stakeholders to raise awareness around waste issues and engage industry and peers to steer innovation.

IN PRACTICE:

• Join purpose-driven partnerships to catalyse change

Funds and alliances are emerging to direct research and innovation to develop more sustainable packaging materials and designs. Those initiatives combine a diverse network of resources and expertise to create and scale innovative solutions via collective action. The Plastic Pact network, for example, is a global initiative initiated by the Ellen MacArthur Foundation as an aligned response to plastic waste and pollution, aimed at sharing knowledge and generating coordinated action. Another example is the UK-based Flexible Plastic Fund, established to create value for hard-to-recycle flexible packaging. The fund works with retailers, recyclers, local authorities, and manufacturers using flexible plastic packaging, to create an efficient system that incentivises high-quality recycling by giving the material a stable value.

SUCCESS CASE

iFood has developed multiple efforts in creating scale through collaboration.

» The programme's Reverte encourages Styrofoam recycling. This programme for pre-incubation and acceleration of cooperatives promotes Styrofoam recycling through the use of technology and partnerships between logistics operators and the recycling industry.

» It partners with the local government of the city of Fortaleza to put into practice the company's 'Recycling book initiatives' and reform the recycling system in the city. The programme aims at increasing recycling rates and providing financial support to the population, by giving extra value to the waste collected.

Takealot and Media24 have both joined the South Africa Plastics Pact, an industry collaboration of packaging producers, users, recyclers, governments and NGOs to tackle plastic packaging waste by creating a circular economy for plastics, keeping it in the economy and out of the environment. Their membership not only underwrites their commitment to prevent packaging waste from their business, they will stimulate innovation, dialogue, and collaboration to unlock barriers to build a sustainable packaging system in South Africa, creating new business models and generating job opportunities.

The SA Plastics Pact | **PLASTICS PACT**

Key:

⚙ Implement   ⓘ Inform   ✕ Enable   ⟲ Promote

IN CONCLUSION

The market role of delivery platforms gives them the unique opportunity to influence both upstream (restaurants and vendors) and downstream (customers and users) participants in their value chain to systemically tackle the growing problem of packaging waste. Building on the market transformational impact of their business model, they have all the levers to improve the entire packaging ecosystem. As new approaches to tackle the issue of packaging waste emerge, some companies are developing innovative solutions and are becoming a source of inspiration for market peers and business partners. This context opens unique possibilities for delivery platforms, as those organisations can play a unique role in addressing barriers to scale sustainability in packaging.

The Golden Rules to Scale Sustainable Packaging described in this document offer a powerful tool for delivery platforms to lead the way in the sustainable transformation of the industry and secure its future.

We encourage companies to appraise their position concerning the rules and use the results to elevate their packaging strategies. A holistic approach should address the company's operations and ways to engage with partners, consumers, and the whole society in the transition to a more sustainable approach to packaging.

Part 2: South Africa packaging landscape

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SOUTH AFRICA

SCALING SUSTAINABLE PACKAGING
SOUTH AFRICA PACKAGING LANDSCAPE

The South African packaging landscape is characterised by a rising urban population driving high per capita waste generation and growing landfill constraints, and, in parallel, by an increasing number of interventions directed at influencing waste awareness and the development of strong Extended Producer Responsibility (EPR[1]) schemes.

Those forces are encouraging industries and municipalities to move towards establishing official recycling systems and programmes and driving packaging producers and users to look into new solutions and business models to shift towards a more sustainable approach to packaging. Awareness-raising campaigns led by governments and NGOs have been run over the last few years to promote environmental action that takes into consideration sustainable living practices. The private sector is also stepping up by creating curbside recycling programmes, joining voluntary collection and recycling schemes, and by investing in diverting waste away from landfills. Those joint actions to address pollution, and specifically packaging pollution, are targeting the creation of a circular economy through changes in production methods and improvements to waste management practices. Yet, despite all these efforts, the growth of packaging usage is outpacing the efforts to capture and re-introduce the material into the economy.

POLICY CONTEXT

The rise in South Africa's population and urbanisation has resulted in a surge in per capita waste generation[2], with consequent stress on current landfills and significant waste leakage into the environment. Despite the challenges, South Africa is showing a proactive response to the growing concern around waste and its impact on society and on the environment, and the country is an example of dedicated Extended Producer Responsibility (EPR) schemes for packaging.

Since the early 2000s, the country saw the emergence of multiple voluntary, industry-led EPR schemes for different packaging waste streams. The collaboration among Producer Responsibility Organisations (PROs), consumer goods companies, retailers, waste management operators, and other stakeholders, has led to an increase in separate collections and recycling rates for different materials (Prevent Waste Alliance, 2021). During the recent years, enabled by the voluntary EPR fees paid by the scheme members and other financial contributions, the voluntary system has generated support for the collection, sorting, and recycling of materials by informal waste pickers and small and medium-sized companies.

Mandatory EPR was recently introduced in South Africa, with new regulations coming into effect on 5 May 2021 under section 18 of the National Environmental Management Waste Act (NEMWA). In essence, EPR means that producers and importers of paper, packaging and some single-use products, lighting equipment, and electrical and electronic equipment, are accountable not only for health and safety issues associated with their products, but also for the waste generated by their packaging after it has been consumed. For the next years, ambitious targets have been established by the government for collection and recycling, and any company or brand that makes or imports any form of plastic packaging for distribution is required to pay a fee. Fees raised support investments in waste management infrastructure in the country. Consumer campaigns are also planned to help drive behavioural change and there is a strong urge for collaborative efforts in the industry.

WASTE AND RECYCLING IN NUMBERS

		Source
Population (2021)	59.4 million	World Bank
Population yearly growth rate (2020)	1.28%	World Bank
Packaging market size	42.9 billion units – CAGR (2021-2026) >2%	Global Data
Total waste generated annually (2017)	**107.7 million tonnes**	DEA, 2018
General waste generated annually (2017)	~55.6 million tonnes	DEA, 2018
Hazardous waste generated annually (2017)	~52.1 million tonnes	DEA, 2018
Annual waste per capita (2017)	1.88 tonnes	Estimation

Waste generation and management per material (2017) (DEA, 2018)

Material type	Weight (tonnes)	Recycling/recovery	Disposal
Organic waste	19 247 851	49.20%	50.80%
Paper	2 211 225	58.00%	42.00%
Plastic	1 113 362	43.70%[3]	56.30%
Metals	4 035 929	80.00%	20.00%
Others	29 016 379		
Total	**55 624 746**	**34.50%**	**65.20%**

The SA market is still highly dominated by virgin polymers. In 2020, South Africa consumed approximately 1.74 million tonnes of plastic polymers, with 83% of the total consisting of virgin polymers, and the remaining 17%[4] of local consumption made up of recyclate (Green Cape, 2022). Although very critical to the value chain, only 3.6% of plastics recyclables were obtained directly from waste pickers and walk-ins (Plastics SA, 2021).

It is highly challenging to establish the quantity of plastic waste produced in the market due to difficulties in tracking the volume of materials coming into the market, such as packaging on imported items. However, some estimates are available by province (for more information, please refer to Green Cape, 2022). Waste leakage is also difficult to properly size, but it is agreed that the main causes for leakage are lack of available collection services, consumer behaviour (dumping and littering), and the non-recyclability of some plastic packaging and products.

Other packaging materials show a more optimistic outlook in terms of recycling rates. According to the Paper Manufacturers Association of South Africa (PAMSA), in 2021 South Africa recycled 1.15 million tonnes of paper and paper packaging, representing a paper recovery rate of 61.4% (Food Business Africa, 2022).

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[1] Environmental policy that extends the producer's responsibility to include the post-consumer phase of a product's life cycle.
[2] Plastic waste generation: ~41 kg/capita/year, which is above the 29 kg/capita/year global average (SA Plastics Pact, 2022).

[3] Plastic recycling rate in Europe in 2017: 41.9% (Eurostat).
[4] Of the total 312 600 tonnes of recyclate produced, 296 500 tonnes were consumed locally and 14 755 tonnes exported (Green Cape, 2022).

INFORMAL SECTOR

As in many developing countries, the informal sector is a critical part of South Africa's recycling economy. Waste pickers are individuals who collect reusable and recyclable materials in residential and commercial areas, as well as open spaces and landfill sites, with the aim of reprocessing and generating income. Their existence is typically the result of high unemployment rates and the high quantities of recyclables being disposed of in landfills (Godfrey, 2016), factors that represent, respectively, a need and an opportunity for them.

Between 60 000 and 90 000 people in South Africa are estimated to earn their livelihoods from informal waste-picking activities (SA Plastics Pact, 2022), and they are significant contributors to municipal waste management[5]. The government has pledged to provide guidance to municipalities and to the industry regarding measures aimed at enhancing the working conditions of waste pickers and it has established official programmes to improve waste pickers' livelihoods (DEFF & DST, 2020).

Acknowledging the informal sector's importance as an integral part of waste management systems improves the effectiveness of local waste management practices. The inclusion and recognition of waste pickers and recyclers in the formal system are crucial in South Africa's approach to the circular economy, to increase recycling rates and to support the country's commitments to realising 2030 Sustainable Development Goals (SDGs). This process of integration involves providing informal workers with support, resources and training to improve their working conditions and livelihoods, increase their efficiency in collecting and recycling waste, and reducing the negative impacts on their health and safety.

SOUTH AFRICAN PLASTICS PACT

A distinctive and leading initiative to tackle packaging waste is the South African (SA) Plastics Pact which was launched as part of The Ellen MacArthur Foundation's New Plastics Economy initiative in January 2020[6]. It is an industry collaboration of packaging producers, users, recyclers, governments and NGOs to tackle plastic packaging waste by creating a circular economy for plastics.

Currently, the SA Plastic Pact consists of business members that span the entire plastic production and recycling value chain,, representing about 30% of plastic packaging put on the market, along with supporters collaborating to create a Roadmap and execute the proposed initiatives. In relation to the most recent regulations, the SA Plastics Pact has committed to aligning with the local developments and assisting in the achievement of national targets stipulated by EPR regulations and schemes.

The SA Plastics Pact defines four targets to address the problem of plastic pollution:

1. Taking action on problematic or unnecessary plastic packaging through redesign, innovation or alternative (reuse) delivery model;

2. 100% of plastic packaging to be reusable, recyclable or compostable;

3. 70% of plastic packaging effectively recycled;

4. 30% average recycled content across all plastic packaging.

(SA Plastics Pact, 2022)

The founding members of the SA Plastics Pact highlighted that informal sector integration is a key metric for the SA Plastics Pact in driving progress towards its target on recycling.

SOLUTIONS

Solutions for sustainability in packaging require strategies and tools tailored to the specific context of each organisation and the market it operates in.
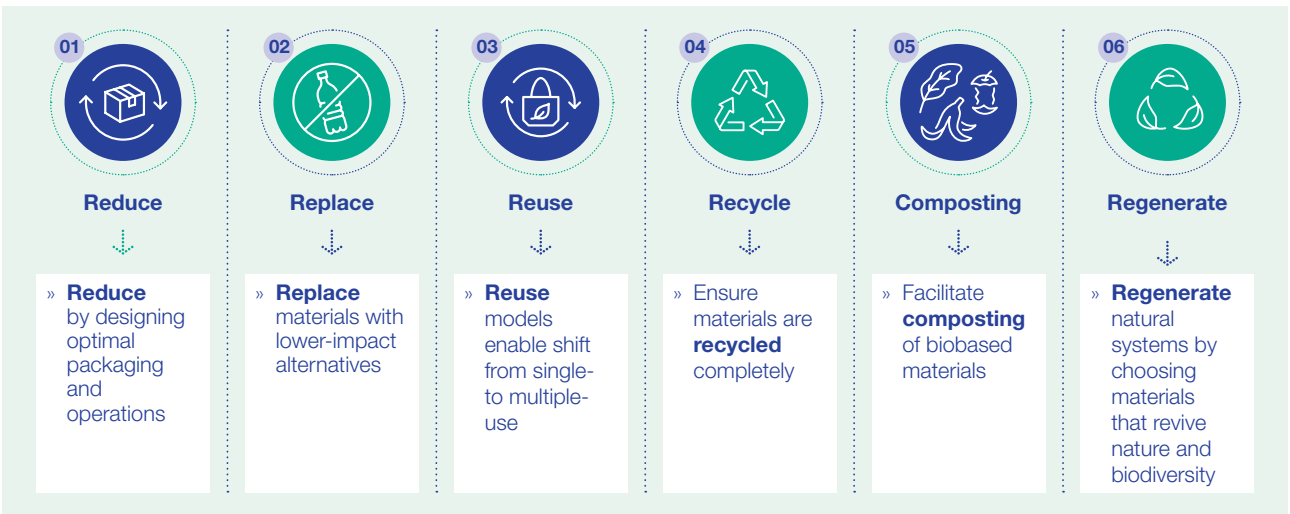
In South Africa, as well as in other geographies, multiple solutions are needed to tackle the problem of packaging waste. Packaging design and delivery models need rethinking, to ensure all unnecessary and avoidable packaging and materials are eliminated, and that packaging is recycled, reused, or composted in practice. For materials that are technically recyclable, it is critical to improving waste collection and consumer awareness. Please refer to the 10 Golden Rules for Scaling Sustainable Packaging for digital platforms in part 1 of this report.

Different sectors and industries have unique priorities and thus require the application of diverse strategies.

The Golden Rules to Scale Sustainable Packaging, for example, offer specifically to digital delivery platforms a set of strategic guidelines that can be used to define a suite of solutions and measures that account for the unique characteristics of each organisation within the industry.

Appraised in the context of the six sustainable packaging principles (Figure 1), the most visible and promising strategies towards sustainable packaging practices in South Africa can be summarised as described in Table 1. Two specific strategies, removing unnecessary and problematic packaging and introducing reuse models, are discussed in more detail.

Figure 1 – six sustainable packaging principles

01 Reduce	02 Replace	03 Reuse	04 Recycle	05 Composting	06 Regenerate
» **Reduce** by designing optimal packaging and operations	» **Replace** materials with lower-impact alternatives	» **Reuse** models enable shift from single-to multiple-use	» Ensure materials are **recycled** completely	» Facilitate **composting** of biobased materials	» **Regenerate** natural systems by choosing materials that revive nature and biodiversity

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[5] For example, they recover approximately 80% to 90% of post-consumer paper and packaging waste collected for recycling (Godfrey, 2016).
[6] The SA Plastics Pact is the result of a collaboration of WRAP, WWF, SAPRO, and GreenCape.

SCALING SUSTAINABLE PACKAGING
SOUTH AFRICA PACKAGING LANDSCAPE continued

Table 1 – Driving strategies for sustainable packaging in South Africa

Strategies and solutions	Sustainable packaging principles			Source or example
Take action on problematic and unnecessary plastic packaging	01 Reduce			*SA Plastics Pact*
100% of plastic packaging to be reusable, recyclable or compostable	02 Replace	03 Reuse	05 Composting	*SA Plastics Pact*
70% of plastic packaging effectively recycled	04 Recycle			*SA Plastics Pact*
Plastic carrier bags and plastic flat bags to be made from minimum 50% post-consumer recyclate from 1 January 2023, 75% from 1 January 2024 and 100% from 1 January 2027	01 Reduce			*Plastic Carrier Bags and Plastic Flat Bags Regulations*
Improve packaging design to facilitate recycling	01 Reduce	04 Recycle		*Packaging Recycling Guideline: Recyclability by Design for Packaging and Paper in South Africa (DEFF, 2020)*
Voluntary industry-led and mandatory EPR schemes	01 Reduce			*EPR schemes*

INFORMAL WASTE SECTOR
SOURCE: WWW.GREENPEACE.ORG

Problematic and unnecessary packaging

The SA Plastics Pact supports companies to identify and prioritise the elimination of small plastic items and packaging that are not recycled in practice 'whether technically not recyclable or recycled in very small volumes in South Africa and [that] have alternatives available' (SA Plastics Pact, 2022).

12 items have been identified as a priority for action:
1. Oxo-degradable plastics
2. PVC bottles, pallet wrap and labels
3. PET and PVC shrink sleeves on PET beverage bottles
4. Plastic stickers on fruit and vegetables
5. Thin filmed barrier bags for fruit and vegetables (50% reduction)
6. Thin (barrier) bags at tills
7. Plastic straws
8. Plastic stirrers
9. Single-use plastic picnic cutlery and plastic plates and bowls
10. Cotton buds with plastic stem
11. Plastic lollipop sticks
12. Plastic microbeads in cosmetics.

Reuse and refill

An important part of action towards more sustainable packaging lies in fostering the scalability of reusable packaging models.

Certain packaging categories and locations throughout the country have been identified for their potential to benefit from reuse and refill systems. The focus areas recommended in the SA market are:
1. On-the-go packaging, due to its high leakage
2. Locations far from recycling markets, where packaging is often landfilled or leaked into the environment.

A further list of items is continuously being investigated and will require a longer timescale to address, coupled with collaboration with other key players to increase recovery, recycling capacity, or access to new technologies.

Usefully, the SA Plastics Pact (SA Plastics Pact, 2022) also identifies formats with adequate recyclability and that are relatively well recycled within the local context:
- PET beverage bottles
- HDPE bottles and other rigids (for example, jars, closures, crates and drums etc)
- Greater than A4-sized mono-material LDPE and HDPE flexibles in a business-to-business context
- Greater than A4-sized mono-material LDPE and HDPE flexibles in a business-to-consumer context.

The SA Plastics Pact and the MAVA Foundation held in 2021 a competition for reusable packaging solutions, the 2021 Reuse Innovation Challenge, to identify innovations that can be viably implemented by brand owners and retailers in the country. The event led to the development of some pilot programmes, such as the partnership between the Unilever Sunlight team and Sonke, a company that designs and manufactures automated refill stations to test a refill concept for dishwashing liquid at three Spar stores.

Another pilot organised within the context of the SA Plastics Pact and in partnership with the V&A Waterfront and the Oranjezicht City Farm (OZCF) market, is testing a reusable cup option for customers at a market in Granger Bay, Cape Town.

IN CONCLUSION

Transforming the packaging industry requires establishing close cooperation among the stakeholders involved in the value chain of packaging and materials.

South Africa is witnessing a transition towards official recycling systems as a means of tackling the escalating challenges of waste generation and landfill limitations, jointly with a growing movement towards more sustainable packaging practices among industries and consumers.

While there is still much work to be done, the progress made so far is a positive sign that the country is moving towards a more environmentally responsible future.

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ABOUT THE AUTHORS

NASPERS PROSUS

Naspers and Prosus form a global consumer internet group and one of the largest technology investors in the world. We create sustainable value by building consumer internet companies that address big societal needs – they improve people's everyday lives and enrich the communities they serve. As an investor in pioneering technologies, our software-driven and asset-light digital services develop sustainable solutions for big societal needs. As a result, our locally owned and built businesses are not only driving innovation in key areas of life – from finance to education – but are creating jobs and helping to transform social and economic inequalities.

UBUNTOO

Ubuntoo is an environmental solutions platform designed to accelerate the implementation of sustainability goals of companies and other organisations. A one-stop knowledge platform to empower and scale the collective intelligence of impact communities and help accelerate their ESG benchmarks. Ubuntoo has a team of dedicated researchers, experts, and content creators to make the transition to environmentally friendly practices easy with sustainable innovations, trending news, events, and top-tier knowledge carefully curated for any global environmental challenge.

REFERENCED COMPANIES

Alaska Milk Corporation

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