

White Paper

Deplastify the planet

**10 alternatives
to plastic packaging**

SCHOOLAB MOHO

Acting on our shared ambitions for the planet

**Something's
happening in the world
of packaging
& consumer goods.
Deep, positive change
is tangible at scale.**

Our ambition with this study is to show how, innovating hand-in-hand, entire industries manage to shift away from plastic while staying more relevant than ever to their customers. Working on alternatives has become an absolute necessity and a shared ambition for all. We are getting there, step by step.

**We play our part with
Deplastify The Planet,**

a global eco-conception program launched by Schoolab, Moho with the support of UC Berkeley, in partnership with leading industries & consumer brands.

The program gathers students and global organizations with a single goal in mind: to 'deplastify' the planet with innovations that can hit the market as soon as possible. The potentials in circular economy, in bioplastics, in education, in reduction of waste and recycling are limitless.

Participants of past editions include Samsung, Whole Foods, Nestlé, Danone, Method, Faurecia, Microsoft and Albirds. The fourth edition of the program operated by Schoolab starts in January 2021.

Contact: innovate@theschoolab.com

Public Enemy No. 1

Plastic is top of mind when it comes to reducing environmental impacts of grocery shopping.

**The priority for customers?
To make sure it doesn't end
in landfills & oceans.**

Consumer priority alternatives:

40,5%

Packed in other material than plastic

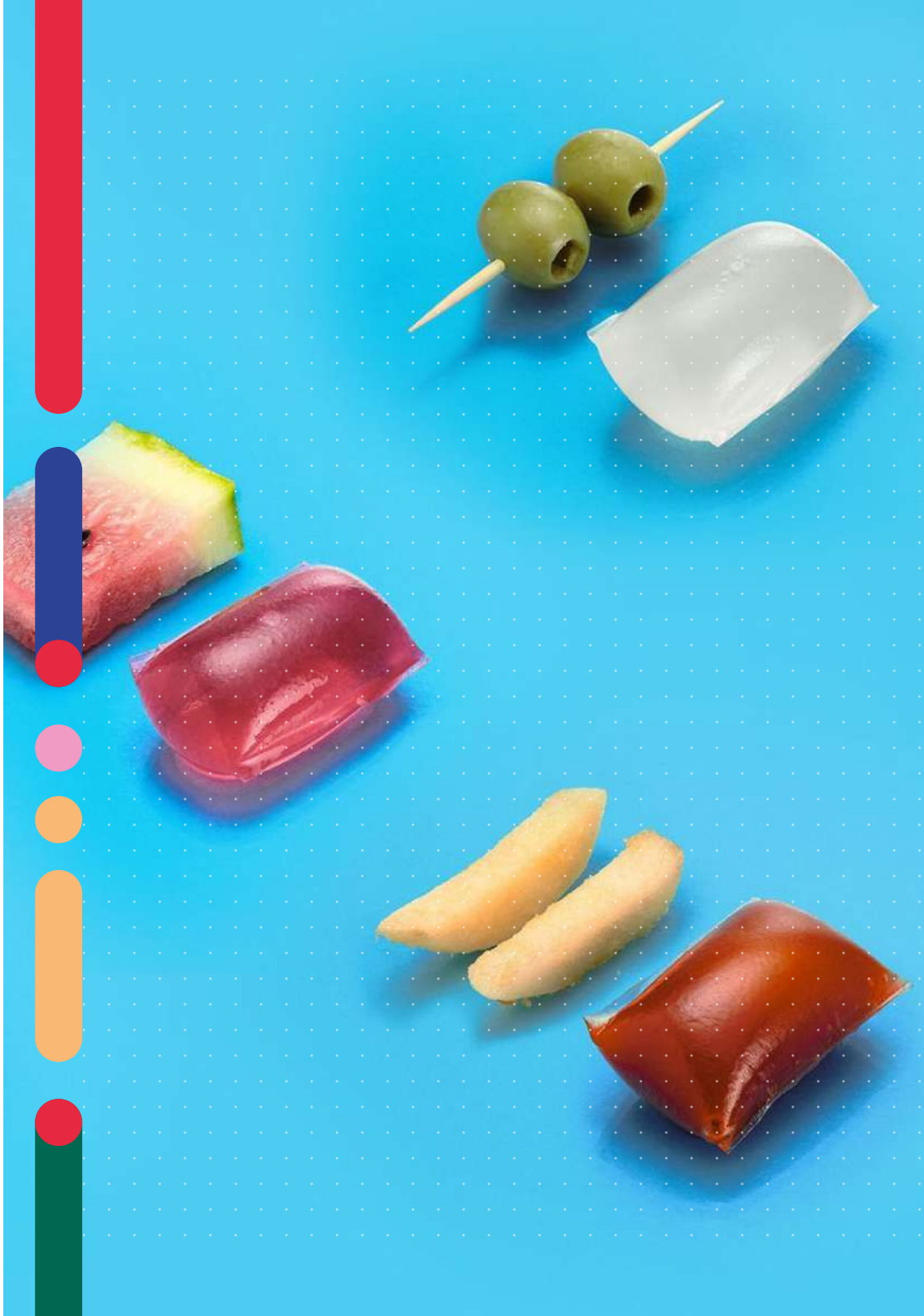
46,2%

Packaging that is bio-degradable

52,2%

Packaging that can be 100% recycled

Source: Kantar September 2019 Publication
Who Cares, Who Does
Consumer response to plastic waste



#1

Notpla

The next sauce sachets

The solution

Notpla is an edible, flexible and translucent material made from seaweed and plants.

It allows encapsulation of any liquid product such as sauce sachets in restaurants and takeaway, cocktails and sports beverages. It can also be used as a waterproofing coating for paper plates and takeaway cardboard boxes.

Tailored for the takeaway food industry

In the UK, Just Eat leads a trial with Unilever to deliver sauces (Hellmann's ketchup, BBQ, tartare and garlic) packed in Notpla seaweed-based sachets.

The ambition

Notpla biodegrades in a matter of weeks, unlike the 800+ billion plastic sachets that are used globally each year!



#2

Paptic

The alternative to plastic film

The solution

Paptic is a biobased, recyclable packaging material that combines the qualities of paper and plastic. It is made by associating sustainable wood fibres with a patented “foam-forming” process which replaces water with cellulose foam.

Ban plastic film from shopping bags

Paptic is suitable where plastic films have previously been the only option: single-use bags, non-food flexible packaging, e-commerce shipping, electronic appliances, etc.

In 2019, Finnish brand Sokos shifted to Paptic for the production of its shopping bags: 19 department stores and 34 cosmetic stores are involved, with an annual consumption of 2-3 million bags.

Why it's important

Paptic shares the same qualities as paper (weight & thickness) while outperforming plastic thanks to its reusability, folding endurance & durability. Its production process also requires 30% less water than traditional paper.



#3

La Roche Posay Eco Tube

The pioneer in cosmetics

The solution

La Roche Posay's eco-tube is the first ever cosmetic tube to combine cardboard with plastics.

The first of many products to come

This next-gen packaging was released in 2020 for Anthelios, La Roche Posay's sunscreen product range.

It was developed in partnership with Albéa - the world leader in cosmetics packaging - which announced future releases with other L'Oréal brands.

The impact for L'Oréal

The eco-tube allows a 45% reduction in plastic use, as well as lowering the carbon footprint of the manufacturing process. The cardboard used is FSC* certified.

**Forest Stewardship Council*



#4

Daddy

Turns to Kraft paper

The solution

A sugar stand-up pack made of recyclable, soft and unbleached Kraft paper, instead of the traditional transparent plastic.

Meeting strong consumer demand

Daddy first redesigned its packs in 2019, starting with organic sugars. The Crystal Union consumer brand (45% market share in France) extended the solution to all of its sugar ranges within six months.

This project follows on multiple innovations at Daddy, which had already replaced its hard 1L PET packs with organic biosourced plastics in 2015.

The impact

The soft pack is 100% recyclable, and the plastics used (mainly for the cap) were reduced by 70%. The weight is also inferior by 20%. Thanks to these actions, Daddy hopes to generate a reduction in plastic equivalent to 7.6 million PET water bottles per year.



#5

Candia

The next-gen milk pack

The solution

The organic Candia 1L milk pack is designed without aluminum layers, its cap is made of biosourced plastics, and its traditional inner-wrapping plastic layer was replaced with cardboard.

The use-case

The brick is the *Signature Pack*, a model designed with Swiss manufacturer *Sig*, which won a WorldStar Packaging award in 2019.

Three years of co-development were necessary before the release to comply with French dairy procedures & regulations.

Candia, a *Sodiaal Group* brand, plans to expand the innovation to other ranges.

The impact

While the pack is made of 75% of FSC certified cardboards, the remaining 25% are made of eco-sourced plastics, such as wood waste. The plastic transport overpacks were also replaced by FSC cardboards.



#6

McDonald's

goes strawless!

The solution

McDonald's France replaced all its cold drinks plastic lids and straws with a fiber lid made from certified sustainable sources and recyclable materials.

Massive scale transformations

The 1 500 French restaurants of the food chain got rid of plastic lids & straws in 2019 to comply with the European ban on single-use plastics.

This move follows a long series of innovations by McDonald's to improve the environmental footprint of its restaurants. The solution was preferred over paper straws, which were previously introduced in the UK for trials.

The impact

With this innovation, McDonald's has reduced its plastic consumption by 12 000 tons, and 96% of McDonald's single-use packaging in France is now made of recycled or FSC-certified papers and cardboards.



Communities around the world rely heavily on plastic for its practicality,

as it allows to limit the weight of transport packaging. It also has undeniable qualities in regards to food & beverages safety, as an efficient barrier against diseases & bacteria.

However the way we handle plastic today is causing harm that exceeds most benefits. We need to strengthen our understanding of the material, and use it wisely. A huge lot of situations, products and services do not require plastic - and even less single-use plastic!"

Mathieu Aguesse,

Program Director

University of California, Berkeley

CEO @ Schoolab San Francisco



Schoolab ©





#7

Carlsberg

Let's cheers to sustainability

The solution

Carlsberg's *Green Fibre Bottle* is the world's first paper beer bottle made with sustainable and recyclable wood fibres.

The prototype

This prototype was co-designed by Carlsberg's, BillerudKorsnäs and the Technical University of Denmark. They started working on it as early as 2015, and were joined later-on by other large international companies such as L'Oreal, Coca-Cola Company & Absolut.

Two models were released with distinct protective inner film barriers to contain the beer: one using recycled PET, the other using a bio-based PEF.

The ambition

Carlsberg has committed to reach zero carbon emissions and a 30% reduction in its "full-value-chain carbon footprint" by 2030. In 2018, it had already released the Snap Pack, an innovative bonding technology to replace conventional plastic carriers for six packs.

#8

Whole Foods x Method

The upcycling partnership

The solution

A fully compostable cardboard bottle, lined with PHA bioplastic made by fermenting food waste.

School project turns entrepreneurial

What if *Whole Foods* could upcycle their waste and turn it into packaging for *Method's* cleaning products?

This challenge was given to 3 students by *Deplastify the Planet*, the UC Berkeley innovation program led by Sutardja Center for Entrepreneurship and Technology (SCET) and Schoolab. They found that PHA, a compostable bioplastic made from organic feedstock such as cardboard and food waste, could be the perfect material for the project.

In partnership with the two brands, they designed this bottle, using PHA.

The business case

Upcycling food waste and grocery store cardboards helped dramatically reduce PHA production costs, approximately by 45%!





#9

Cif ecorefill

For cleaner cleaning products

The solution

Cif ecorifills are capsules that allow users to refill their Cif sprayers, simply by plugging them to their used bottles, refilled with tap water.

The use-case

Unilever launched “Get Plastic Wise”, a strict plan to dramatically reduce plastic use by 2025.

Just like the spray bottles, the eco refills are 100% recyclable (once the plastic sleeves are removed) and made from 100% recycled plastic. The capsules contain a 10x concentrated formula, thus minimizing plastic use.

The impact

Diluting the product at home means 97% less water is being transported on the roads, with direct impact on greenhouse gas emissions. Unilever plans that this innovation will allow the removal of millions of plastic bottles from European supermarkets.



#10

AYA Cup

The return anywhere reusable cup

The solution

AYA Cup is a hot & cold drinks cup made of bamboo fibre and cassava starch, destined to be used at coffee, bubble tea and smoothie shops partnering with the brand in Ho Chi Minh City.

More than cups: a system

Instead of using single-use plastic cups (or bringing their own cups) customers deposit 50,000 VND (€0,2) to borrow the AYA cup. After using it, they can bring it back to any store in the network and get their deposit back.

Shops are responsible for managing deposits, collecting cups, washing and giving them to the next customer.

The ambition

AYA Cup is targeting the 27 tons of plastic and Styrofoam generated each year by the food delivery and take-away industry in Vietnam.



MoHo is an inclusive and international community of change makers launching the D-DAY of Positive Impact.

Our mission is to create disruptive solutions to solve world challenges.

Moho is opening a 7,500m2 collider in June 2021, mixing entrepreneurs, researchers, artists, corporates, NGOs, citizens in Caen, the heart and capital of Normandy.



Schoolab is a global Innovation studio with locations in Paris, San Francisco and Ho Chi Minh City.

Our mission is to transform organizations through innovation, by making their stakeholders more agile and entrepreneurial.

We mix corporations, startups, students and experts together to leverage differences and revealing creativity.





More information on www.deplastify.co

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Contact-us

innovate@theschoolab.com



theschoolab.com