Packaging

Business Driver

- Packaging is an important component of any product and contributes significantly to a company’s overall environmental impact. By developing and implementing sustainable packaging initiatives, our environmental footprint is reduced.
- By exploring sustainable packaging in our innovation
- When the cost of packaging materials increases, it means potential harm on business. However if well managed packaging from a marketing perspective, sustainability packaging may lean to brand differentiation.

Packaging Solutions

- Programs to increase the use of reusable packaging
- Programs to increase the use of recyclable packaging
- Programs to phase out single-use plastic packaging
- Programs to increase the use of recycled material as packaging solutions
- Programs to ensure that recyclable packaging is actually recycled
- R&D resources to sustainable packaging and alternative solutions

Group-Wide Commitment

We will ensure 100 percent of our branded packaging is reusable, recyclable or compostable by 2025.
Thai Union Packaging Innovation Roadmap

2019
- Working to develop paper lid solution to replace our existing plastic lids in product packaging. The lid has been developed, and we are now exploring ways to deploy it in compliance with manufacturing process requirements.

2020
- Exploring technologies to reduce the thickness of the pouches we currently use for many of our seafood products, while maintaining the same appearance and quality our customers enjoy.

2021
- Conducting ongoing research to improve carbon footprint of our product packaging, by utilizing bio-based material or putting recycled content into polymers.

2022
- Investigating ways to utilize shrimp shells in our plastic packaging. This would yield many benefits, including reuse of factory by-product as well as development of bio-based packaging.

2023
- Optimizing transportation through more space efficient packaging, for instance in the form of square packaging.

Group-Wide Commitment
We will ensure 100 percent of our branded packaging is reusable, recyclable or compostable by 2025.
Associated Programs

Programs to increase the use of reusable packaging
- Reusable packaging requires a substantial innovation in operations and logistics. While it might be easier for non-perishable products, reusable business models are more difficult to achieve for fresh and semi-fresh food and seafood.
- Nevertheless, we are exploring ways to launch new products with reusable packaging while balancing the quality and safety of our products, and exploring ways to shift already existing items under our current portfolio.

Programs to increase the use of recyclable packaging
- In 2019 we have assessed our entire branded portfolio in order to understand the recyclability performance of our primary packaging and identify gaps and areas for improvement. We have defined 4 categories of recyclability (Green, Yellow, Orange and Red) to determine the likelihood of the packaging to be recycled in practice and at scale in accordance with DJSI requirements and the Ellen McArthur Foundation guidelines.
- It is of primary importance to understand the difference of recyclability in practice and recyclability at scale. For this reason we have identified packaging types that are widely recycled thanks to a well-established recycling industry (green category), as well as those that might be recycled in practice, but that are still not yet recycled at scale (yellow category).
- By end of 2020 we are committed to completing an extensive baseline covering primary, secondary and shipping packaging with a breakdown by material and, for plastic, also by polymer type.

Programs to phase out single-use plastic packaging
- In our packaging assessment, we classify cutlery and straws (currently not in the TU portfolio) as non-recyclable items, and we are looking for alternatives to comply with our commitment.
- In order to reduce the reliance on single use plastics, reusable models are being explored. Where this proves not to be feasible due care will be taken in respecting recyclability guidelines and the definition of recyclable in practice and at scale.
Thai Union Packaging Assessment 2019

Overall assessment of Thai Union Group packaging

The values in the graph refer to the number of different primary packaging types. Packaging types are intended as examples of packaging, and do not represent not the complete Thai Union portfolio.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>PACKAGING TYPE</th>
<th>PROBLEM</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>All packaging types that are not recyclable due to material, design and lack of widely available recycling infrastructure.</td>
<td>Has one or more of the following characteristics or material types: Carbon black plastics, PVC, PVDC, PS, ePS, straws, cutlery, multi-material bags/sachets/pouches, multipack wrappers.</td>
<td>Identify different materials which can be easily recycled/composted or consider a change to packaging design.</td>
</tr>
<tr>
<td>Orange</td>
<td>All packaging types that have some easily recyclable components, while other components are non-recyclable or to be improved.</td>
<td>Has both easily recyclable components (green category) as well as components that fall under the red category or other components that hinder the overall recyclability.</td>
<td>Identify easy to recycle/compost alternatives for the non-recyclable components or consider a change to packaging design.</td>
</tr>
<tr>
<td>Yellow</td>
<td>All packaging types which may present barriers or challenges to recycling despite adopted material. These items can be identified as ‘recyclable ready’.</td>
<td>Packaging types with sealing closures, plastic films, foils, thin layers, paper labels with no washable adhesive, or other components that are not widely recycled in practice and that might represent an issue to recycling.</td>
<td>Improve packaging design and look for alternatives for those components that might represent a barrier or challenge to recycling.</td>
</tr>
<tr>
<td>Green</td>
<td>All packaging types easily recyclable both in practice and at scale.</td>
<td></td>
<td>Keep looking for better alternatives and improved design to reduce material consumption and environmental footprint.</td>
</tr>
</tbody>
</table>

Green
- Aluminum cans
- Tin-coated steel cans
- Glass jar + aluminum lid
- Cans + cartonette
- Cans + carton cluster

Yellow
- Monomaterial plastic cups (PP)
- Cans with monomaterial plastic wrapper (LDPE)
- Cans with monomaterial plastic lid (PP)
- Other items with monomaterial plastic

Orange
Combination of easy-to-recycle and hard-to-recycle-components
- Multipack cans with wrappers (PET/PVC)
- Sliced boxes + plastic fork
- Cardboard + plastic foil (PE/PA)

Red
- Mixed/multimaterial pouches
- Mixed/multimaterial bags
- Mixed/multimaterial sachets
- PVC/PVDC/PS/ePS plastic items
- Carbon black plastic items
- Plastic cups with fork included
Associated Programs

Programs to increase the use of recycled material as packaging solutions
- Many food-grade recycled plastics polymers are not yet allowed by law in several countries. rPET is the only polymer widely accepted for food packaging application (still not in every country), but it is currently not adopted in our portfolio. The main polymer adopted by Thai Union is Polypropylene (PP), but the suitability of the recycled polymer for food application is still under investigation globally.
- Our packaging team within Thai Union Global Innovation Center is in the process of understanding where recycled polymers could be used respecting all food safety and hygiene standards.

Programs to ensure that recyclable packaging is actually recycled
- To promote recycling of recyclable packaging and recyclable items, since 2014 Thai Union has established a Garbage Bank program, designed to improve awareness and the ability of our staff to identify waste, at the workplace and at home, as well as to reduce plastic waste in the community. Revenue from the Garbage Bank supports educational materials for the children of Thai Union workers.
- In addition to plastics downstream of our value chain, Thai Union is in a unique position to address marine plastic debris, particularly plastic waste of the fishing industry. Since 2018, Thai Union has been a member of the Global Ghost Gear Initiative (GGGI) to reduce the growing problem of abandoned, lost and discarded fishing gear (ALDFG), estimated to represent up to 70 percent of the macroplastics debris in the open ocean by weight. We are collaborating with multiple actors, from supporting fisheries to shift away from fishing gear with high potential to be discarded; preparing to conduct research on Fishing Gear Practice and Management in Thailand; to launching the #GhostGearReborn awareness campaign and arranging a dive to remove lost fishing gear from the ocean.

R&D resources to sustainable packaging and alternative solutions
- The packaging team in our Global Innovation Center is focusing on developing bio-based plastic polymers (PLA) to introduce compostable packaging in our portfolio, starch-based pouches and monopolymer pouches to phase-out multi-material packaging that is not recyclable and a paper lid to be used instead of plastic lids.
- At the same time, during the second phase of our Space-F program we will be scouting and looking for innovative ideas and startups to support that might be interesting for Thai Union's business by assessing the suitability of new and/or new design solutions.