



Risks & Opportunities Associated with Single-Use Plastic in the Chemicals and Pulp & Paper Products Industries

Overview

At the June 2020 Board Meeting the Standards Board approved a standard-setting project to consider modifying the Chemicals and Pulp & Paper Products industry standards to incorporate risks and opportunities associated with single use plastics and bio-alternatives.

The recommendation to proceed to standard setting is based on insights gained through consultations with investors which were focused on assessing market views on financial materiality and overall investor interest in this topic.

As the project moves towards standard setting staff welcomes input and feedback from interested companies, subject matter experts and investors. Key areas of focus include identifying tools and methods to evaluate full lifecycle impacts of different alternatives and gaining better understanding of how companies and investors currently frame and track these issues.

This document is intended to provide some background as well as scope of the project, key insights gained from investor consultations and areas of priority in the current project phase.

Expectation is to present an Exposure Draft of proposed changes for public comment in early 2021.

Background

Over the past several years a confluence of factors have served to intensify focus on externalities associated with single-use plastic. These include:

- Consumers were activated by reporting on plastic waste accumulating in oceans and the attendant impact on sea life as well as potential leaching of plastic into human food chains. One of the more galvanizing events was a viral video of a sea turtle with a plastic straw stuck up its nose.
- Entering 2018 the Chinese government dramatically increased its quality standards for importing recycling from around the world. With new strict restrictions on levels of contamination, volumes of recycled plastic and paper sent to China fell dramatically, causing recovered waste to accumulate in source countries.
- Partly in response to the consumer concerns and disruptions related to the shift in Chinese policy, governments around the world have started to regulate the use of single-use plastics. This has occurred at the local, country and regional level and includes narrow actions, such as banning single-use plastic shopping bags, as well as somewhat more expansive regulations covering a wider range of plastic materials. Canada, India, China and the European Union are just a few of the governments around the world which have proposed plastic regulations. In 2019 [The Wall Street Journal](#) tracked at least 200 different pending initiatives across municipalities in in the United States on top of hundreds of existing regulations.

- Some of the largest corporate consumers of plastic packaging, multinational household product and food and beverage companies, have started to respond to these concerns. Many are committing to ensure their packaging is 100% reusable, recyclable and/or compostable over the next few years (mainly by 2025). Over 450 organizations, representing over 20% global plastic production, have signed the Ellen MacArthur Foundation's New Plastics Economy pledge, committing to 'address plastic waste and pollution at its source.'

While these developments have been building for a few years, activity has continued into 2020, some recent examples include:

- The proposed Chinese ban on certain single-use plastics was announced in January 2020 with intended implementation in 2022.
- In July 2020, the European Union agreed to a new EU tax of €0.80/kg on non-recycled plastic packaging effective January 2021.
- In January 2020 Finnish paper company UPM Kymmene announced a €550 million investment to produce wood-based chemicals in Germany.
- As reported by [Plastics Today](#) Unilever, PepsiCo and Coca-Cola have each taken some actions to shift 'towards paperboard and away from plastics in their packaging.' These initiatives include a recyclable paper bottle.
- It is too early to draw conclusions regarding permanent impact, however it is worth noting that the onset of COVID-19 has affected plastics in several ways:
 - Some governments temporarily reversed or delayed implementation of certain plastic regulations; for instance, in April the US state of California implemented a 60 day waiver on its 2016 restrictions on single-use plastic shopping bags and New York State delayed enforcement of its new bag ban multiple times this spring.
 - Companies have taken action to retract or update policies in response to fears of contamination of reusable products. For instance, large restaurant chains such as Starbucks temporarily stopped filling customers' refillable cups.
 - Stay at home orders and changes in consumption patterns have forced a shift in demand and types of packaging consumed. A shift to take out from in-restaurant dining has increased demand for to go packaging. Similarly, there has been an increase in online ordering for goods and groceries which can impact packaging decisions and consumption.
 - Strong COVID-related demand for hand sanitizer has stressed the supply chain to the point of extreme scarcity for dispensing pumps. This has led to alternative packaging closure choices, without pumps. An effort was launched in the UK to encourage recycling and/or reuse of pumps. While too early to draw any conclusions, this could potentially lead to a permanent shift in consumer behavior.

As leading purchasers of packaging respond to government regulation and changing end customer demands the markets for single use plastic may need to structurally change. This could lead to opportunities for companies that can provide products/activities which address these concerns and risks for those that cannot.

Issues related to single-use plastics extend to many other industries, however, this project is focused exclusively on Chemicals and Pulp & Paper Products – with a slightly different scope for each industry. The topic of single-use plastics does not currently explicitly appear in in either industry standard.

In contrast, while there may be room for future improvement, the issue of plastics/packaging efficiency is already incorporated into existing standards for several industries including, Alcoholic/Non-Alcoholic Beverages, Containers & Packaging, Processed Food, and Household & Personal Products.

Investor Consultation Highlights

In an earlier phase of this project SASB staff conducted consultations with a range of global investors and analysts to assess overall interest in this issue for either/both industries and their views on potential financial materiality.

A few key themes arose from these discussions. This feedback will inform the standard-setting project. These include:

- In terms of the Chemicals industry there was near universal agreement that single-use plastics is an important issue and already serves as a key element of investors' corporate engagement with industry management.
- While investors also cited this as an important issue for Pulp & Paper companies, there was not as strong a consensus as compared to the Chemicals industry. Some investors were less familiar with the Pulp & Paper industry, so the potential connections between paper and plastics were not as clear, while others expressed reservations about the environmental impacts of some wood-based alternatives.
- Investors saw the implications of rising scrutiny of single-use plastics as financially material for both industries with potential impacts in revenues, costs, intangible assets, R&D and capital expenditures. That said, many acknowledged this is a highly dynamic/evolving area and it might take some time for the full financial impacts to manifest.
- Among most of the investors consulted, there was recognition that 'not all plastic is bad' with some pointing to light weighting benefits in autos, extended food shelf life and reduced travel weight helping efficiencies in distribution. In light of this, many cautioned against focusing exclusively on waste without consideration of other lifecycle impacts. Many urged 1) ensuring a neutral view regarding raw material/substrate and 2) incorporating a full/balanced life cycle assessment in any resulting metrics.

- While there was an overwhelming preference for quantitative metrics on this topic – many investors acknowledged that given the evolving landscape, this may prove challenging at this time. Investors indicated that more qualitative discussion on this topic also would prove valuable and represent improvement from current reporting.

Project Scope

As noted previously, issues related to single-use plastic extend to several other industries, and in many cases, is currently incorporated into existing SASB standards for those industries.

As we look to incorporate the issue into the Chemicals and Pulp & Paper industry standards, similar to where the issues manifests in existing standards, we anticipate proposed revisions to fall under the Business Model & Innovation dimension and the Product Design & Lifecycle Management General Issue Category.

Chemicals Industry

The current Chemicals Industry standard has a topic under Product Design for Use-Phase Efficiency, but the focus does not seem to capture many elements related to single-use plastics

The current intent of the standard-setting project is to consider adding a topic and supporting metrics that reflect an issuer's strategy to manage the risks and identify opportunities associated with the changing landscape around single-use plastics, including but not limited to, a narrow focus on renewable feedstocks.

Areas of potential consideration include, but are not limited to, identifying a company's exposure to single-use plastics, business activities related to recycling infrastructure and other initiatives that might address gaps between theoretical and practical recycling, investments in new recycling technologies, product changes which impact recyclability and reusability of their products and incorporation of recycled and renewable feedstocks. It is possible this scope could encompass efforts to encourage behavioral changes in terms of reusing and recycling products.

During consultations one investor noted a prominent industry consultant's forecast that pressure on single use plastics could trim the topline of the industry. Another investor identified potential reputational risks for companies making single-use plastics. Other potential financial impacts could manifest in costs, capital expenditures and R&D spending.

The issue is fairly pervasive to the extent that regulatory changes are occurring around the globe and large multinational corporations are pledging to change their packaging. That said, not every global chemical company will have the same or necessarily any exposure to single-use plastics.

Pulp & Paper Products Industry

The current Pulp & Paper Products Industry standard does not incorporate any product design/use-phase issues.

The intent of the standard-setting project is to consider adding a topic and supporting metrics that reflect an issuer's strategy associated with a broad range of bio-alternatives (replacements for fossil fuel based products), including, but not constrained to, wood-based resin.

This scope includes, but expands beyond, single-use plastics. Using processes and technologies not entirely distinct from pulp production, the Pulp and Paper industry can extract materials from wood to make many products which can substitute for those typically associated with fossil fuels.

- In terms of plastics this can manifest in traditional paper-based alternatives to plastic products, such as paper versus plastic drinking straws, but also in wood-based resins to make plastics.
- There are some well-established products such as textiles made from dissolving wood pulp that can replace cotton as well as fossil fuel-based textiles.
- Paper companies can make adhesives out of lignin (a byproduct of pulp making).
- It is also possible to make fuels such as biodiesel out of wood.
- Some paper companies employ chemicals to coat materials such as food packaging – that might be at risk with escalating regulation and demand shifts, though there may be opportunity to develop degradable/recyclable alternative coatings.

While some of these developments are likely in a nascent stage and may take some time to manifest, as previously noted, earlier this year UPM Kymmene announced a €550 million investment in wood-based chemicals – a financially material amount in the context of the industry. In addition to capital expenditures there is potential for this issue to manifest in revenues and R&D spending.

Looking beyond waste

Much of the focus associated with plastics is related to waste – often these products are used once and disposed. Traditional feedstocks degrade slowly and can last in landfills for a very long time. Other plastics which have made their way to the oceans and waterways can degrade into micro-plastics which can be consumed by fish and eventually people.

However, waste is a concern, but only a single element of the lifecycle. There can be tradeoffs and complications that bear consideration. For instance:

- Not all plastics are single use. Products that have a long life cycle or are reusable can allay concerns about the end of life waste element. And some of these products can confer other environmental benefits. For instance, incorporating some plastic components into automobiles, replacing heavier alternatives, can enhance the fuel efficiency of cars.
- Some single-use plastics bestow important benefits – such as preserving the sterility of health care materials.

- Plastics are generally very light, meaning they add very little weight to the goods being packaged. As such, they can be more efficient in terms of the transportation of goods. A heavier packaging alternative may be easier to manage at end of life, but require more fuel to get the goods to market. This is a reason why plastic soda and milk bottles replaced heavier glass bottles.
- The technical properties of plastics can help extend the shelf life of foods. Shifting to a different packaging substrate might not prove as effective in food preservation and consequently could lead to more food waste. Given some of the products being packaged can have a bigger environmental footprint than the packaging materials, limiting incremental food waste can be impactful. The [New York Times](#) reports that a pound of beef can have '25x the global warming impact as the plastic bag it's carried in.'
- There are considerations about the resource consumption associated with making single use plastics relative to some alternatives (for instance, a paper versus plastic shopping bag). The [New York Times](#) cites a 2011 study evaluating the environmental impacts of plastic bags and some alternatives – noting that many alternatives have to be used multiple times (and in the case of a heavy cotton bag as much as 100x) to have the same environmental footprint as a single-use plastic bag. Additionally, other studies have found a rise in the purchase of garbage bags in municipalities where single-use plastic bag bans have been implemented, offsetting some of the environmental benefits of the policy intended to support the use of reusable bags. These purchased garbage bags are typically many times thicker than the single-use shopping bags they replace, with a corresponding larger environmental footprint.
- It is possible to replicate some traditional plastic resins using wood as opposed to oil or gas as a feedstock (raw material). There could potentially be benefits to relying on wood sourced from a sustainably-managed forest over a fossil based material such as oil/natural gas. However, the resulting plastic product would largely replicate the technical properties of the original and may ultimately present similar end of life challenges as the original fossil-based products.
- There has been growth in compostable plastics which ostensibly resolve the issue of slow degradation of traditional plastics. But these products can add some complications and challenges as well. For instance, these products often need to be composted in a commercial grade facility – to which not every consumer may have access. Additionally, these compostable products are often not recyclable and can create contamination if they are inadvertently put in with the recycling waste stream.

Consultation Questions

Are there any angles associated with this issue that you consider relevant/important that we might not have identified (e.g. pellet loss)?

Corporates/subject matter experts: do you track and measure any activities in this area currently? Are there any external benchmarks you look to in order to accomplish this/how do you measure it? Are there any tools you suggest we consider?

Do you currently report on these issues? If so, what metrics do you publish?

Do you have any stated targets and goals related to single-use plastics/bio-alternatives?

In your view is the science far enough developed to provide useful neutral/comprehensive lifecycle assessments of these activities?

Do you consider new products such as renewable feedstocks positive for the environment? What is the scope of your impact assessment?

What is your view on the current regulatory environment related to these issues? How has the regulatory environment impacted your business? Can you measure what share of your business is exposed to new regulations?

Do you have any recommendations for distinguishing between exposure to single-use plastics and longer lifecycle products?

Do you have any recommendations to differentiate between products that are theoretically recyclable and those that are realistically recyclable?

Is single-use plastics a financially material issue for your company/industry? In your opinion, what is the most important driver of this – new technologies, regulation and/or demand pull?

Are you seeing increased demand for alternatives to single-use plastics? Are such products a measurable share of your revenues? Are products that could be exposed to substitution due to increased scrutiny of single-use plastics a measurable part of your portfolio?

Are you dedicating a measurable share of R&D and/or capital expenditures to new products which might address consumer concerns associated with single use plastics?

Investors: do you currently track any data related to this topic? What data points would be most useful in your analysis?