



BRAND PERSPECTIVES ON BIOMATERIALS

#WhatBrandsWant



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01

Executive Summary

As advocates for responsible development of the bioeconomy, Sustainability Consult has a deep insight into the challenges facing the industry. We speak and moderate at leading industry events where we often hear the same questions asked by peers:

- How can biomaterials manufacturers make it easier for brands to engage?
- What can the bio-based industry do to encourage brands to invest in bio-based materials?
- How do bio-based solutions fit in with brand sustainability goals?
- How can brands help the bio-based industry to grow?

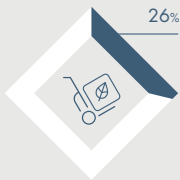
To find out the answers, we decided to ask the brands directly. We tapped into our network to put our finger on the pulse of the bioeconomy movement. With a focus on better understanding the end-user perspective, we launched the [#WhatBrandsWant](#) survey in 2017.

Over a six-month period, we gathered responses from [over 40 brands](#) across different sectors ranging from apparel, footwear & textiles, to food & beverages and personal care. The results offer an insight on the drivers and barriers affecting market growth in the bio-based materials sector.

This report looks at the key factors shaping the brand-biomaterials relationship, with the goal of helping the bio-based industry better understand #WhatBrandsWant

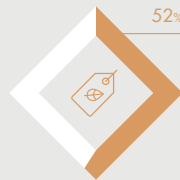
1.1 HEADLINE FINDINGS

Bio-based content is gaining recognition in ‘Green Preferred Supplier Lists’.



26% of brands said bio-based content is one of the selection criteria used when choosing a supplier based on sustainability performance.

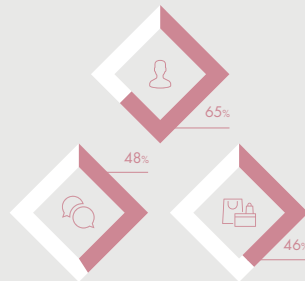
Brands are setting targets for bio-based products.



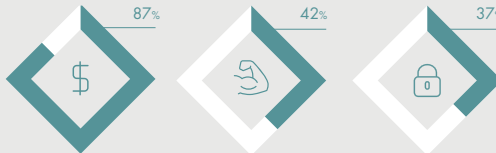
52% said they have clear objectives for sourcing bio-based materials.

Consumer demand and public image are driving investment in bio-based materials.

Respondents said growth factors for bio-based materials include consumer demand for environmentally-friendly products (65%) and packaging (46%), as well as brands wanting to improve public image (48%).



Cost is the biggest barrier to widespread adoption of bio-based materials.

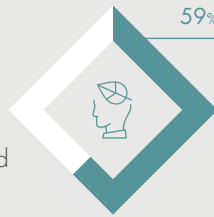


Among the brands, 87% indicated cost as the biggest barrier to widespread uptake of bio-based materials. Performance (42%) and security of supply (37%) were identified as the next biggest barriers.



Brands are knowledgeable about bio-based materials.

59% said they felt informed about bio-based materials.

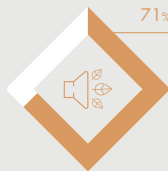


Brands are looking for information on how bio-based materials meet performance and availability demands at a competitive price.



To evaluate whether to adopt bio-based materials, 63% said they need more information from suppliers on pricing, 61% on availability and 57% on performance.

Brands are vocal about their use of bio-based materials.



71% said their brand communicated externally on its use of bio-based materials.

Moderate to strong growth expected for bio-based materials.



96% of the brands surveyed expect the bio-based materials market to experience moderate to strong growth by 2025.

About Us

Sustainability Consult was founded in 2008 on the principle that businesses – companies, start-ups, SMEs and brands – can make a positive contribution to solving some of today's major challenges like climate change, resource scarcity and pollution.

Since 2011, Sustainability Consult has worked closely with companies invested in the **bioeconomy**, an industrial sector which uses biomass as a feedstock to produce different materials, chemicals and plastics for various applications. We believe that shifting from fossil-based to bio-based is one important way to decarbonise the economy.

02

Survey Methodology

- Online survey
- Launched 22 February 2017
- Closed 30 August 2017
- Maximum of 13 multiple choice questions on market trends, barriers and opportunities for bio-based products

What is a Bio-based Material?

A commercial or industrial product (other than food or feed) which is composed, in whole or in significant part, of biological products, including renewable domestic agricultural materials (including plant, animal, and aquatic materials), forestry materials, intermediate materials, or feedstocks.

Bio-based materials exclude motor vehicle fuels, heating oil, or electricity produced from biomass.

Source: USDA BioPreferred® Program

2.1

WHO WE ASKED

The online survey was sent to 6,230 participants, including 637 brands and 5,593 contacts from Sustainability Consult's network of bioeconomy and sustainability experts.

Sustainability Consult invited materials experts, innovation, R&D and sustainability managers from companies listed in the 2016 Corporate Knights Global 100, an annual list of the world's most sustainable companies. We chose a sample which would ensure respondents were informed enough to offer some insights into bio-based market trends. However, the selection of participants undoubtedly resulted in a response bias.

The survey was also sent to Sustainability Consult's network of bioeconomy and sustainability experts to compare the producer and end-user points of view.

The response rate was 1.8%, indicative of the difficulty in reaching the target population of senior managers, who are highly sought after research subjects. These individuals likely do not have time to participate in many research studies and suffer from respondent fatigue due to their popularity.



2.2

WHO ANSWERED

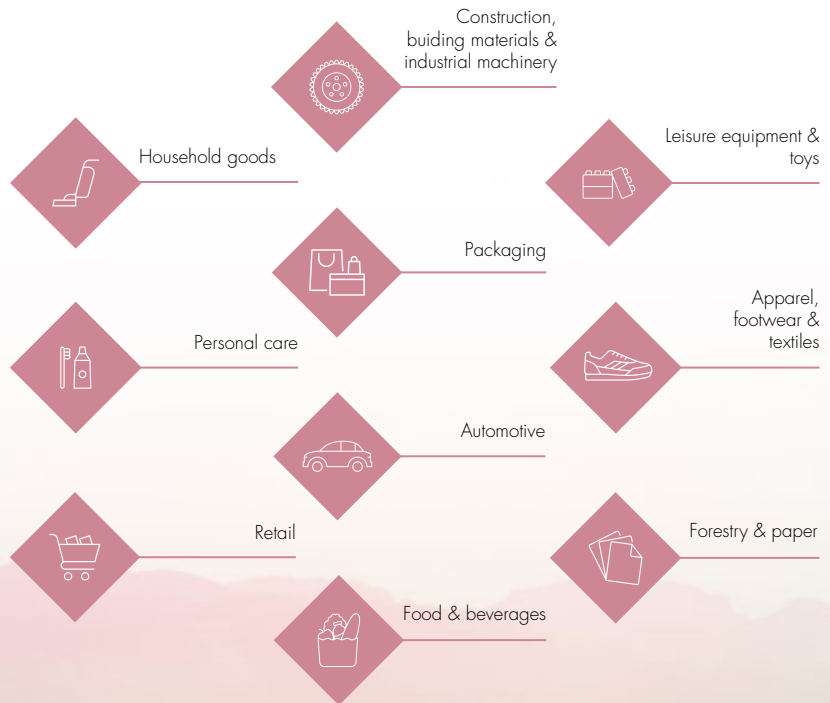
We received responses from 55 individuals working at 42 different brands. The results reported below are based on individual responses because survey participants working for the same brand had differing opinions.

Beyond brand responses, another 57 individuals working for biochemicals, biomaterials and biofuels producers, associations, consultancies, research institutes, universities and government agencies also completed the survey.

2.2.1

SECTORS

The following brand sectors responded:

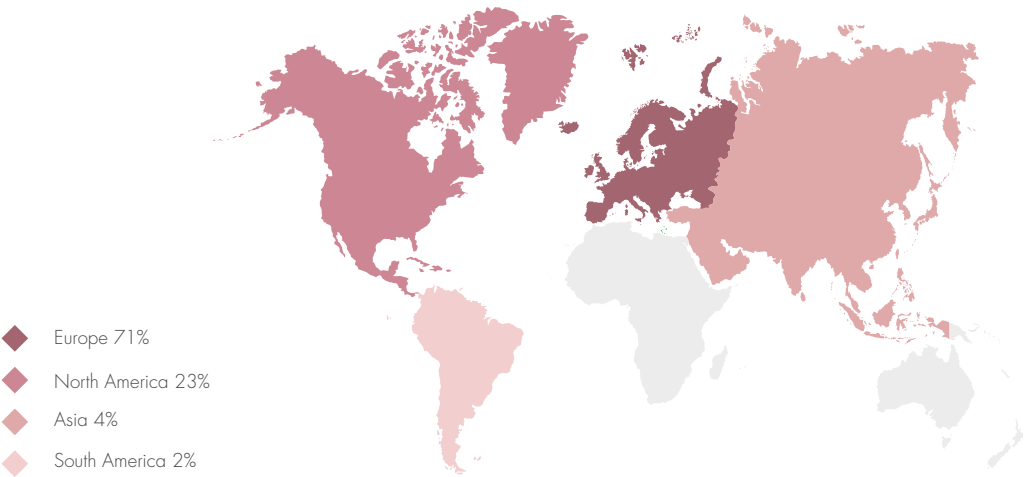


2.2.2

GEOGRAPHY

Survey respondents from large brands spanned 16 countries in the following regions.

Most brand participants were based in Europe. About one quarter were North American and fewer than 10% were from Asia and South America. Within Europe, participants came from 12 countries, with most coming from the Netherlands and Sweden, followed closely by Belgium and Germany.



2.2.3

Survey Question:
How informed are you about bio-based materials?

- ◆ Informed
- ◆ Well-informed
- ◆ Not informed



LEVEL OF KNOWLEDGE

Respondents from brands were informed about bio-based materials, with 59% claiming they were informed, 39% well-informed and only 2% not informed about bio-based materials. This trend was also reflected by those brands not currently using bio-based solutions.



03

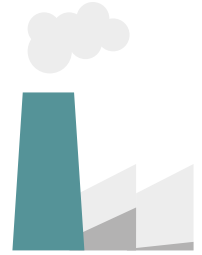
Results

3.1

MOST RESPONDENTS USE BIO-BASED MATERIALS IN THEIR PRODUCTS

Survey Question:
Does your company
use bio-based
materials in its
products?

YES	84%
NO	14%
Don't know	2%



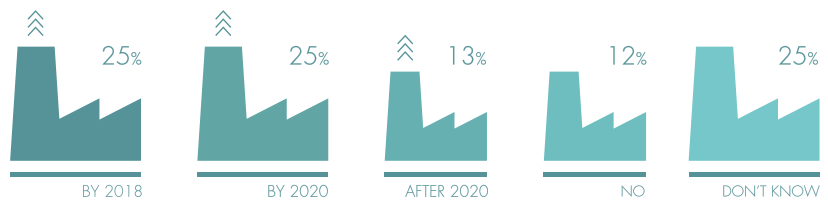
84% of brand respondents said their company uses bio-based materials.

This indicates widespread uptake of bio-based materials. However, the survey elicited a higher response rate from people already working with bio-based materials, probably because the topic was of greater interest to them.

3.2

BRANDS NOT CURRENTLY USING BIO-BASED MATERIALS PLAN TO USE THEM IN THE FUTURE

Survey Question:
Does your company
plan to use
bio-based materials
in its products in
the future?



Among those brands not currently using bio-based materials, 63% intend to use biomaterials in the years to come, sending a market signal that growing demand for bio-based materials will need to be met sooner rather than later.

The 'No' respondents raised concerns about bio-based products taking agricultural land away from food.

3.3

BRANDS ARE SETTING TARGETS FOR SOURCING BIO-BASED MATERIALS

Half of the brands surveyed have set targets for sourcing bio-based materials. Respondents from the household goods, personal care, as well as leisure equipment & toys sectors were most likely to have set bio-based targets.

Survey Question:
Has your company set targets for sourcing bio-based materials for its products?



3.4

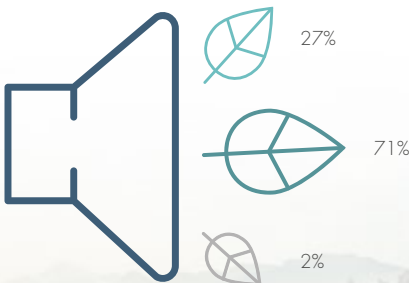
BRANDS ARE OPENLY COMMUNICATING ON THEIR USE OF BIO-BASED MATERIALS

Communicating openly on their use of bio-based materials demonstrates confidence in bio-based technology and products.

The case studies in Chapter 5 showcase some of the brands most visibly promoting biomaterials, including Adidas, Ford, LEGO and Nestlé.

Survey Question:
Does your company communicate externally on its use of bio-based materials?

- ◆ YES
- ◆ NO
- ◆ Don't know





3.5

BIO-BASED CONTENT FEATURED IN SUSTAINABILITY CRITERIA FOR 'GREEN PREFERRED SUPPLIER LISTS'

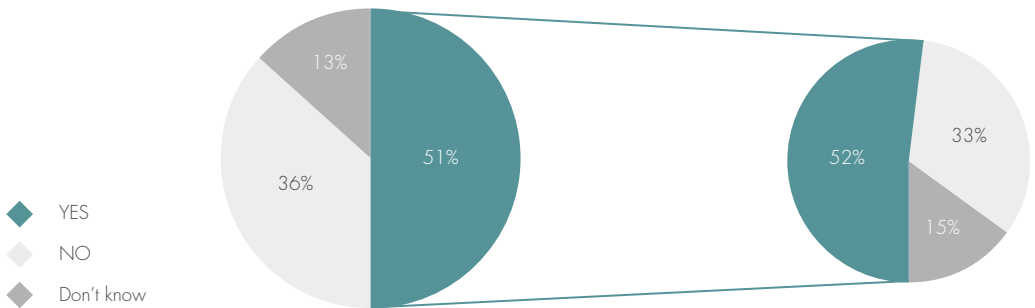
Stakeholder pressure to increase the sustainability of supply chains has significantly increased in recent years. This is reflected in the survey results, with the apparel, footwear & textiles, and personal care sectors being the most likely to have a 'Green Preferred Supplier List*'.

Survey Question:

Does your company have a 'Green Preferred Supplier List' based on sustainability criteria?

Survey Question:

Is bio-based content one of the sustainability criteria in your company's 'Green Preferred Supplier List'?



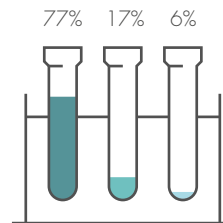
3.6

BRAND R&D INVESTMENTS SIGNAL GROWTH OPPORTUNITIES FOR BIOMATERIALS PRODUCERS

Survey Question:

Is your company conducting R&D on bio-based materials?

- YES (Dark Teal)
- NO (Light Teal)
- Don't know (Lightest Teal)



The survey results suggest that brands are increasingly willing to investigate bio-based materials for their supply chains. Half of the brands not currently using bio-based materials for products are conducting R&D on them.

*A 'Green Preferred Supplier List' asks suppliers to adhere to certain sustainability criteria before a purchase is made or a contract is signed

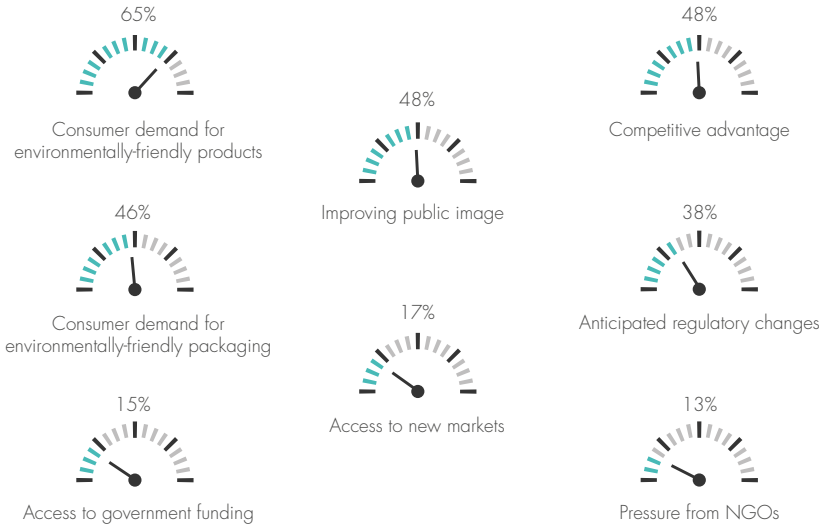
3.7

GROWTH IN BIO-BASED MATERIALS DRIVEN BY CONSUMER DEMAND FOR ENVIRONMENTALLY-FRIENDLY PRODUCTS AND PACKAGING

Are brands not using bio-based materials already facing different consumer demands or do they believe that demand for environmentally-friendly products does not include bio-based solutions?

The results indicate that biomaterials producers need to address a range of different motivations for adopting bio-based materials. Whereas early adopters are influenced by pressure to become more sustainable, late adopters will be influenced by the changing regulatory environment and the need to future-proof their business.

Survey Question:
What do you think
is driving growth in
bio-based materials?



What is our Wider Network Saying?

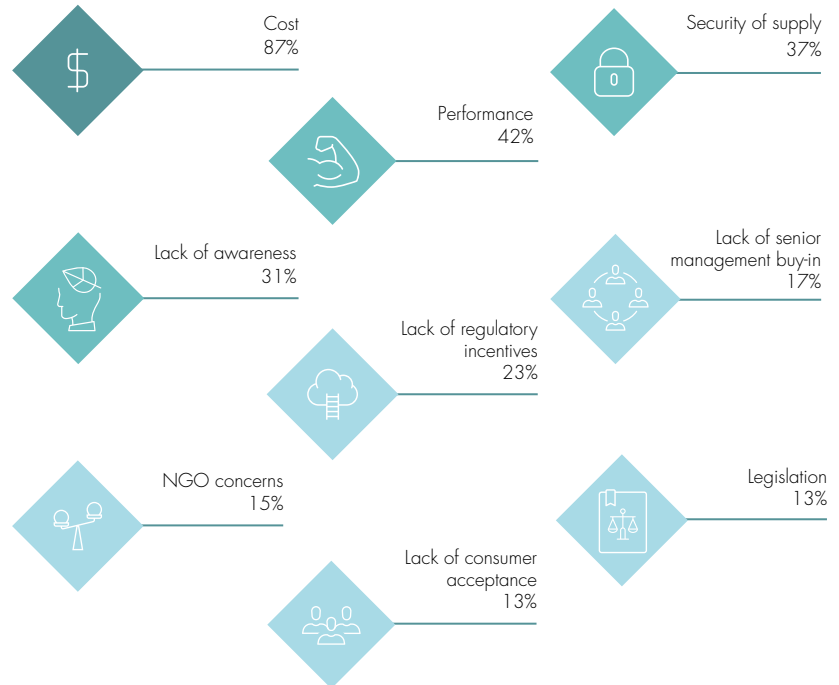
Responses from our wider network follow a similar pattern to those from brands using bio-based materials. This suggests biomaterials producers understand that bio-based products with a strong sustainability narrative can help brands to meet consumer demand for products which do social or environmental good.



3.8

COST IS THE BIGGEST BARRIER TO ADOPTION OF BIO-BASED MATERIALS

Survey Question:
What do you think
are the barriers
to widespread
adoption of
bio-based materials?



In the comments collected during the survey, respondents again highlighted concerns regarding the use of food-based crops to manufacture bio-based products, as well as a lack of consumer understanding. Some brands were also worried about the recyclability of bio-based materials.

Rather than simply look to brand owners to help the industry, manufacturers should provide tangible evidence of product advantages.

What is our Wider Network Saying?

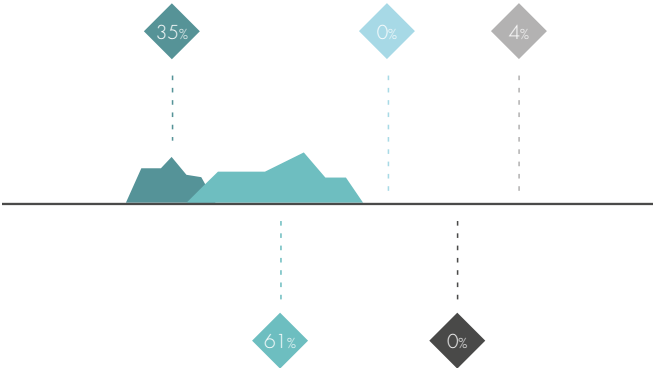
Lack of awareness about bio-based solutions is perceived to be the second most important barrier after cost. This reveals that biomaterials producers understand brands are looking for more information on certain aspects of bio-based alternatives.

3.9

MODERATE TO STRONG GROWTH EXPECTED FOR BIOMATERIALS

Survey Question:
How do you think the market for bio-based materials will evolve by 2025?

- Strong growth
- Moderate growth
- No growth
- Negative growth
- Don't know



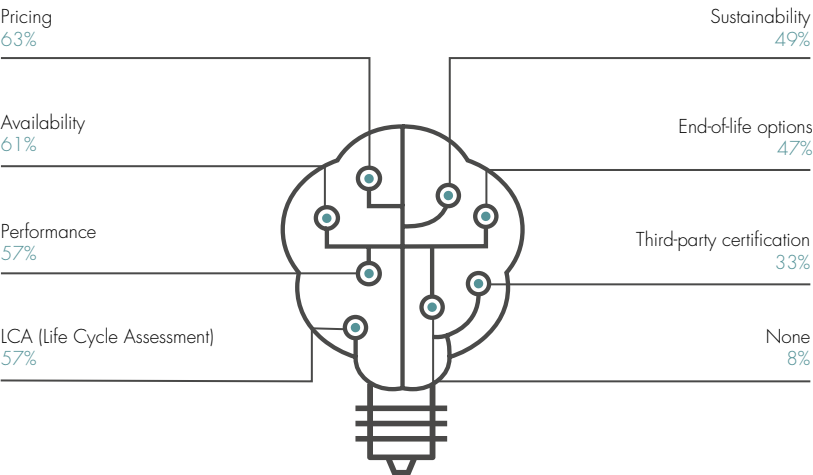
Most respondents expect the market to experience moderate growth, although brands already using bio-based materials are more optimistic, with 43% suggesting there will be strong market growth. In their comments, respondents highlighted the price of oil, lengthy product planning cycles, end-of-life options and legislative changes as having a strong impact on the evolution of the market.

Perhaps more surprisingly, brands not using bio-based materials also expect moderate growth. This is a positive sign of market development for biomaterials producers.

3.10

BRANDS NEED INFORMATION ON PRICING, AVAILABILITY AND PERFORMANCE

Survey Question:
What information do you need to promote bio-based materials within your company?



The survey results indicate that brands are looking to producers to fill the information gap. Concrete data tracing biomaterial origin was also flagged up as a need from respondents' comments. To assess whether to switch, brands need a clear picture of the consequences of adopting bio-based materials.



04 *Conclusions*

One clear trend stands out: Consumer interest in sustainability is causing brands to pay attention to the bioeconomy.

While advances in biomaterials have not always been matched by the demand to employ these new solutions, this is evidently changing. Our results show that growth is expected in the biomaterials market, even by brands which are not using them for manufacture yet. This same demographic is also invested in R&D for bio-based materials.

So how can producers translate this interest to mainstream bio-based solutions?

OPPORTUNITIES FOR ACTION



1. COMMUNICATE CREDIBLY ON SUSTAINABILITY

Under pressure to reduce their environmental footprint, brands must ensure marketing claims around impact stand up to scrutiny. Biomaterials producers can support them with sustainability information on chemicals and materials made from biomass.



2. EDUCATE BRANDS ON PERFORMANCE

While cost is slowing the adoption of biomaterials, forward-thinking brands are nevertheless investing to bring innovative products to market. If biomaterials producers engage with the entire supply chain to identify performance benefits, this could offset concerns around higher costs and single suppliers.





3. IMPROVE TRANSPARENCY OF BIOMASS SOURCING

Producers need to communicate openly on the type of biomass used and its end-uses for both food and industrial applications. Industry should use Life Cycle Assessment (LCA) and third-party certification to promote responsible sourcing.



4. ADDRESS END-OF-LIFE CONCERNS

Bio-based products vary in their ability to biodegrade and brands are concerned about the recyclability of bio-based materials. To avoid biomaterials ending up as contaminants in waste streams, producers should engage with brands on end-of-life labelling initiatives.



5. TEACH CONSUMERS ABOUT BIOMATERIALS

Recent studies have shown consumers are unfamiliar with bio-based products¹, so the sector must increase awareness. However, an LCA is too complex for public consumption. Information should focus on consumer benefits.

Biodegradable or Bio-based?

The differences between 'bio-based', 'bioplastic', 'biodegradable' and 'compostable' are not yet clearly communicated by brands.

The terms are often used interchangeably, clouding understanding of the products labelled as such. For instance, brands such as Coop and Unilever communicate on bioplastics without specifying which materials are bio-based or biodegradable. If not properly addressed, communications challenges like this could create mistrust in biomaterials and hamper market uptake.



05

Case Studies

While more and more brands have incorporated bio-based materials into product lines, others have been slower to adopt these new technologies. The following case studies take a more in-depth look at what individual companies in different sectors are doing.

5.1

ADIDAS - ELIMINATING VIRGIN PLASTIC

In 2016, Adidas partnered with German biotech firm AMSilk and announced the creation of 'Futurecraft Biofabric'. The prototype shoe is made using Biosteel® fibre, a 100% biodegradable material created from biopolymers which aims to replicate natural silk.

The company has also pledged to eliminate virgin plastic from its supply chain – an ambition which does not clearly differentiate between petro-based plastics and those made from renewable materials, which could be considered circular.

To coincide with the launch of its 2015 Sustainability Progress Report, Adidas announced a partnership with Parley for the Oceans, an environmental group aiming to raise awareness of ocean pollution.

<https://www.adidas-group.com/en/>

5.2

COOP - SCEPTICAL ABOUT BIOPLASTICS

One of Switzerland's largest retail and wholesale companies, Coop summarises its approach to sustainability as 'Actions, not words'. With 250 individual pledges on various sustainability themes, Coop's three pillars focus on sustainable products and services, resource efficiency and climate protection, as well as employees and society.

Coop has taken a concrete position on bioplastics which it calls a 'negative to neutral stance'. The company argues that its sustainability is compromised e.g. by intensive agricultural processes, disposal and competition with food.

Although Coop sees a long-term benefit to using renewable raw materials and continues to consider bioplastic products and packaging solutions, it has strict criteria for using them, including cost.

<http://www.coop.ch/en/aboutus/company.html>

5.3

FORD - BIO-BASED PRODUCTS IN EVERY NORTH AMERICAN CAR

Ford developed the first bio-based foam to be used in car seats, which debuted in the Ford Mustang. Since then, over 1.5 million Ford cars in North America have come equipped with some form of bio-based product made from soya beans.

The company has also partnered with The Coca-Cola Company to use its innovative PlantBottle technology in the Ford Fusion Energi plug-in hybrid – this led to seat cushions, seat backs, head restraints, door panel inserts and headliners with increased bio-based content.

Ford has developed a range of innovative products, including dashboards padded with scrap cotton from blue jeans and storage bins made from wheat straw. A member of the Bioplastic Feedstock Alliance (BFA), the company is currently focusing on bamboo as a more sustainable alternative to other synthetic and natural fibres and has recently teamed up with tequila brand José Cuervo to use one of its by-products to develop bioplastics. Alongside Heinz, they are also investigating the potential of dried tomato skins to become bio-based wiring brackets.

<http://corporate.ford.com/homepage.html>

“Providing sustainable options to petroleum-based plastics is heading in the right direction. We can make cars that are better for the planet and we can change the way the world moves.”

Debbie Mielewski, Senior Technical Leader, Materials Sustainability, Ford Motor Company Research

5.4

LEGO - SEARCHING FOR BIO-BASED BRICKS

Recently called the ‘world’s most powerful brand’, toy manufacturer LEGO is looking for a bio-based replacement for its iconic plastic bricks, 60 billion of which are produced every year.

In 2015, LEGO announced that it would be establishing a Sustainable Materials Centre. It has invested €135 million in the research and development of sustainable raw materials to manufacture elements, as well as packaging materials. The company wants to find and implement sustainable alternatives to current materials by 2030.

With 75% of the company’s environmental impact related to the manufacturing process and materials used, LEGO is currently testing its first ‘100% sustainable prototypes’. A complete shift to biomaterials could be a revolution.

<https://www.lego.com/en-us/aboutus>



5.5

MARKS & SPENCER – USING COMPOSTABLE BIO-BASED POLYMERS

In 2007, British multinational retailer Marks & Spencer (M&S) released Plan A, a ground-breaking CSR report, cementing its reputation for putting sustainability at the forefront of its business ethos.

In 'How we define Plan A product attributes', the company mentions that it uses compostable bio-based polymers in its packaging materials, which are certified as home compostable in accordance with Vinçotte's 'OK compost HOME' label.

In its Food Packaging Charter released the same year, M&S pledges its commitment to increasing the sustainability of its raw materials, including bio-based plastics. "We are committed to only using feedstocks that are not sourced from food crops and in line with our position on non-GM foods, we've also made sure that we buy only non-GM feedstocks of high amylase maize or corn" — Marks & Spencer Food Packaging Charter.

However, the company does not seem to have set concrete goals on bio-based or sustainable packaging.

<http://corporate.marksandspencer.com>

5.6

NESTLÉ – DEVELOPING A 100% BIO-BASED BOTTLE

Nestlé are members of the Bioplastic Feedstock Alliance (BFA). Alongside Danone, another BFA member, the two companies announced a collaboration with start-up Origin Materials in 2017 to launch the NaturALL Bottle Alliance, with the goal to develop 100% bio-based bottles. Focusing on waste biomass such as cardboard and sawdust, the goal is to bring Origin Materials' technology to commercial scale, making bio-based PET accessible for the entire beverage industry.

Although Nestlé has made 42 public commitments to improve the impact of its operations, there seem to be no company-wide targets on bio-based products. The company has raised issues of end-of-life compostability and biodegradability as barriers to adopting more ambitious bioplastics goals.

<http://www.nestle.com>





Sustainability Consult is the leading bioeconomy communications and PR consultancy, working with organisations to build their Credibility & Visibility. We work across the biomaterials sector, with start-ups, multinationals, certification bodies, investors and trade associations. We are based in Brussels and operate internationally.

A trusted partner and recognised source for the media, Sustainability Consult has a proven track record in brand building and corporate communications. We offer a full range of high-level consultancy services, from PR to marketing communications and online strategy, social media account management and training, events organisation, reports and media monitoring through to issues management and crisis communications.

***Do you want to find out more about #WhatBrandsWant?
Do you have a project we can work on together?
If so, get in touch!***

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