## PRESENTATION

SUSTAINABILITY SUMMIT ABRISO JIFFY

11/06/2024 GHENT





## Agenda

<u>1:00 PM - 1:15 PM</u> Jean-Baptiste De Ruyck: CEO Abriso Jiffy

Introduction

1:15 PM - 2:00 PM: Christoph Vanderstricht: Expert Circular Economy & Sustainable Value Chains PWC

Update regulatory policies on protective packaging at EU & local level

2:00 PM - 2:45 PM: Nathalie Cartiaux: Product Development Mgr for Sustainability LyondellBasell

Showcase new technology developments from PE resin supplier

<u>2:45 PM - 3:00 PM:</u> Coffee Break

3:00 PM - 6:00 PM: Goutam Challagalla: Professor Sustainability and Marketing Strategy IMD

How to develop a winning sustainability strategy: case studies & cocreation session

6:00 PM - 6:15 PM: Ulrich Van de Woestyne: General Manager Western Europe Abriso Jiffy

Overview sustainability goals and strategy Abriso Jiffy

6:15 PM - 9 PM: Dinner in Ray: Klein Turkije 20, 9000 Ghent











## Christoph Vanderstricht

**Lead Expert Circular Economy and** Supply Chains | **Strategy & Transformation.** 

christoph.vanderstricht@pwc.com m. +32 477 61 92 52

#### **Education & Certification**

- MBA (VIGMS) 1999
- MSC in Environmental technology (Ugent) 1995
- MSC in international trade and Finance (Ecole de Commerce Solvay) 1994
- Master of Laws (UGent) 1990

#### **Specialisation**

- Sustainability Strategy and transformation
- Sustainable supply chains (compliance & strategy)
- Circular Economy
- Reputation management
- Governance, Risk and Compliance

#### Language

English, Dutch, French; Spanish, German, Portuguese

## Faculty of the University of Ghent and also a guest of Montpellier (Aix-en-Provence) (ICREI) and the

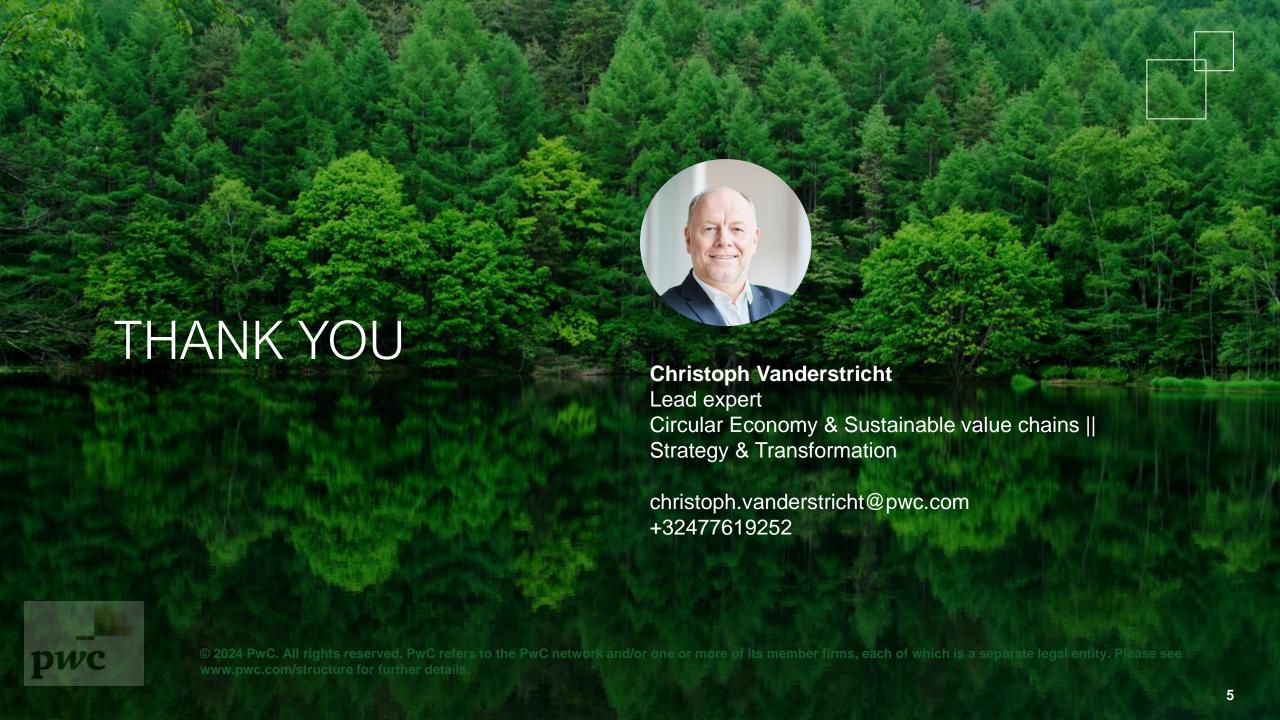
#### **Summary** + 30 years of experience

- Global lead expert in the field of Circular Economy and resource management: Business / Country strategy and Transformation, performance optimisation; policy development, M&A. 360° Green field development of circular resource markets focusing on design and end of life. Governance, risk and compliance strategy and implementation and scope 3 climate transformation.
  - Vast experience in the OECD countries, Middle East and Emerging markets (+50 countries) in multiple sectors
  - Christoph also served as expert consultant at several occasions for the EU, the OECD, UNECE and UNEP in the field of EPR and represented PwC at several Professional bodies and international organisations.
  - He has been an assistant professor at the Law lecturer at the Free University of Brussels; University Eotvós Lorand University of Budapest (Hu)

#### Relevant experience

Throughout his career, [name] has gained key experience in:

- Development and implementation of (transformational) strategies for corporates; industry sectors and regions of solutions and instruments towards circular economy and sustainable sourcing strategies\* (incl EPR / EUDR / EUCSDDD) across following dimensions: governance; finance and control; technologies; infrastructure and operations; communication; regulatory; stakeholders (+80 projects)
- EPR and End of Life strategies for governments and companies / industry sectors for 12+ product categories of which ao ELV, packaging, batteries; tires; WEEE (+40 projects / 50 countries)
- Development, implementation and optimization of resource and EoL products management strategies and platforms for corporates (cross departmental: procurement / marketing / R&D / sustainability / legal / etc.) (+40 projects)
- Development of European Industry wide / International performance monitoring and management control tools (REACH / European Detergents / Conflict Minerals / EPR.) 7 projects
- Supply chain performance and security improvement and optimization across countries (+30 projects)
- Reputation Assurance & Strategy (Brand / Corporate) (15 projects)
- Environmental Due diligence and M&A (120 assignments)
- Sustainable vendor audits (35 projects)
- EH&S audits / EMAS / ISO14001 (+/-20 projects)
- ESG reporting (+/- 20 projects)
- Development and implementation of (transformational) 360° strategies for industry sectors and policies for public authorities (incl. Master Planning) in the field of economic instruments and policies for ao resources (+35 projects):
- Green field development and implementation of resource strategies (country level) (+15 projects)
- Development and implementation of strategies to connect and integrate the chains to create shared value dynamics and sustainable markets for sectors and countries. (+20 projects)





## Nathalie Cartiaux: Showcase new technology developments



# LyondellBasell's Focus on Polyolefins & Sustainability

Nathalie Cartiaux Sr Application and Product Development Mgr, C&LCS

Abriso Jiffy Sustainable Summit Gent, June 11<sup>th</sup>, 2024



## Agenda for Today

- LYB Sustainability Goals
- Brand Owners, Retailers and Demand for Recycled Content
- Circularity Value Chains and LYB Integrated "Hubs"
- Circulen Portfolio Value Propositions
- AbrisoJiffy LyondellBasell



### Who We Are



## Solutions for a better tomorrow

#### **Business strategy**

Grow & Upgrade the Core

Build a Profitable Circular & Low Carbon Solutions Business

Step Up Performance & Culture

#### **Purpose**

#### Creating solutions for everyday sustainable living

#### **Commitments**

- Sustainability-focused innovation
- Ever-better performance
- Outside-in perspective
- · Impactful collaboration

#### **Values**

- We champion people
- We strive for excellence
- · We shape the future

#### Competencies

- Build Partnerships
- Deliver Results
- Drive Innovation
- Grow Capabilities
- Promote Inclusion

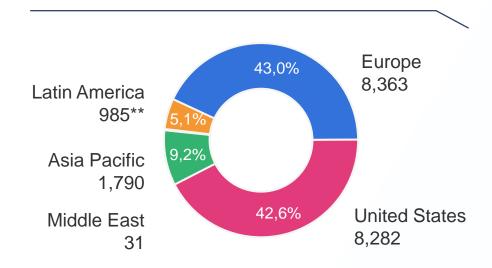
Our GoalZERO mindset enables our strategy



### Who We Are

We are LyondellBasell (LYB) – a leader in the global chemical industry creating solutions for everyday sustainable living. Through advanced technology and focused investments, we are enabling a circular and low carbon economy. Across all we do, we aim to unlock value for our customers, investors and society. As one of the world's largest producers of polymers and a leader in polyolefin technologies, we develop, manufacture and market high-quality and innovative products for applications ranging from sustainable transportation and food safety to clean water and quality healthcare. For more information, please visit <a href="www.lyb.com">www.lyb.com</a> or follow @LyondellBasell on LinkedIn.

#### Our 19,451 employees globally:\*



#1

largest producer of polyethylene (PE) and polypropylene (PP) in Europe

6,000

patents and patent applications worldwide

\$34M+

in charitable investments globally over the past four years through 4,500 grants 21

countries with manufacturing sites and joint ventures

#2

largest producer of propylene oxide (PO) worldwide

23 TONS

of waste collected in the environment during our 2021 Global Care Day events



## Our Industry-Leading Sustainability Ambitions and Actions

Leading the way to profitably advance and innovate sustainable solutions

#### **ENDING PLASTIC WASTE**

- 2 MM+ TONS of recycled and renewable-based polymers produced and marketed annually by 2030
- we will invest in venture funds that address the plastic waste challenge; we help catalyze \$5 from co-investors
- plastic pellet loss to the environment from our facilities

#### **TAKING CLIMATE ACTION**

- greenhouse gas emissions from operations by 20501
- 42% absolute scope 1 and 2 greenhouse gas emissions reduction from operations by 2030²
- absolute scope 3 greenhouse gas emissions reduction by 2030<sup>2</sup>
- 50% minimum of electricity produced from renewable sources by 2030²

#### SUPPORTING A THRIVING SOCIETY

- ZERO incidents, injuries and accidents
- ACHIEVE
   gender parity in global senior leadership by 2032
- the number of people from underrepresented groups in U.S. senior leadership roles to reflect the general population ratio by 2032
- ASSESS

  a minimum of 70% of our key global suppliers using sustainability criteria by 2025

## Society, consumers and regulations are driving brand owner commitments for circular and low carbon solutions

Changing global landscape is driving demand for recycled content and reductions in GHG emissions

#### CHANGING GLOBAL LANDSCAPE

#### 1 Societal Aspirations

 Growing societal aspiration for reductions in GHG emissions and plastic waste

#### 2 Consumer Awareness

 Increasing consumer awareness and willingness-to-pay for circular and renewable products

#### 3 Evolving Regulations

- New requirements across the world, including North America and Europe
- Recycling targets, plastic taxes, Extended Producer Responsibility (EPR) schemes and climate regulations are also driving demand and economics

#### BRAND OWNER COMMITMENTS<sup>1</sup>

Top 10 Global Brand Owner Recycled Content Targets by 2025 and Projected Share at Current Pace

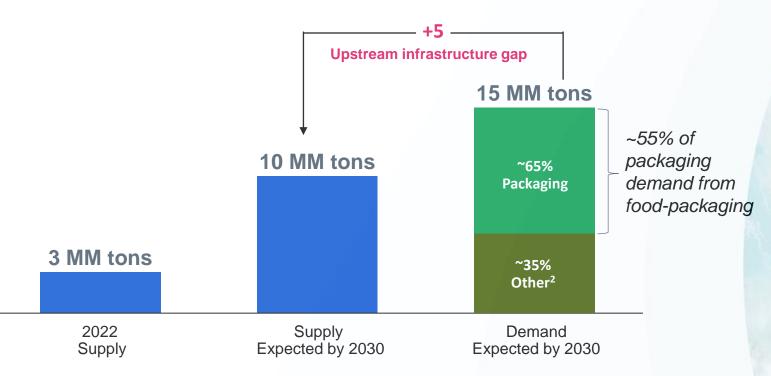
% of total packaging content 50% 30% 30% 30% 25% 25% 25% 25% 25% 2 3 5 6 8 9 10 2021 recycled content Projected recycled content by 2025 Gap to 2025 target



### Persistent supply shortage creating a strong business case for investment

Our target of 2 MM+ tons per year of recycled and renewable-based polymers by 2030 would establish our market leadership in North America and Europe

## UPSTREAM INFRASTRUCTURE GAP IS CREATING A SIGNIFICANT SUPPLY SHORTAGE



#### MARKET ASSESSMENT

- More than 50% of total demand growth for PE/PP driven by recycled and renewable-based content
- Consumer packaging sector has the highest growth in demand for recycled content
- New capacity is needed to bridge the supply gap
- Persistent shortage of supply is expected to sustain healthy margins
- Customers (food packaging, healthcare etc.) are increasingly seeking higher quality recycled content from plastic waste that only advanced recycling can address



1. Sources: McKinsey Chemical Insights, IHS Markit. Supply and demand for recycled and renewable-based polyethylene and polypropylene in North America and Europe.

2. Other includes automotive, durable goods and construction.

## Pathways to circularity of plastics

We are helping to advance the circularity of plastics through three complementary pathways: mechanical recycling, advanced recycling and use of renewable-based feedstocks.



## Improving the Sustainability of Consumer Products





Polymers made from plastic waste through a mechanical recycling process



Polymers made by converting plastic waste into feedstock to produce new polymers using an advanced (molecular) recycling process



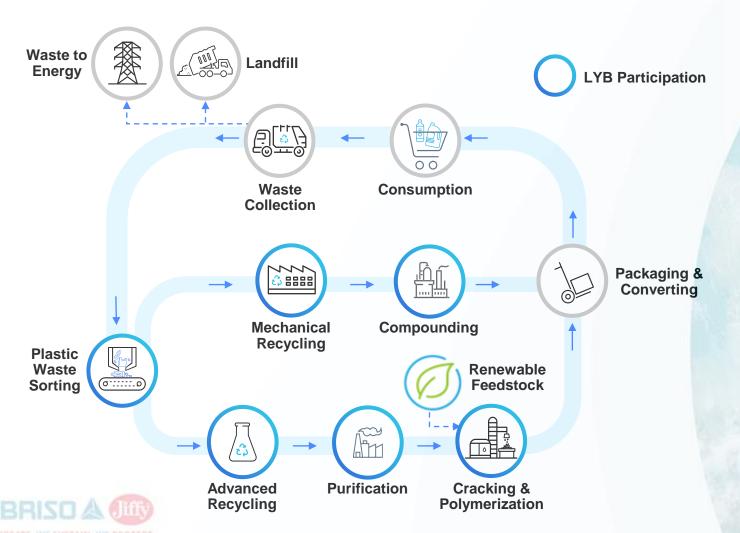
Polymers made from renewable feedstocks such as used cooking oil



## Today's Circularity Value Chain

LyondellBasell is participating across complex and complementary value chains

#### WASTE TO FINAL PRODUCT VALUE CHAIN



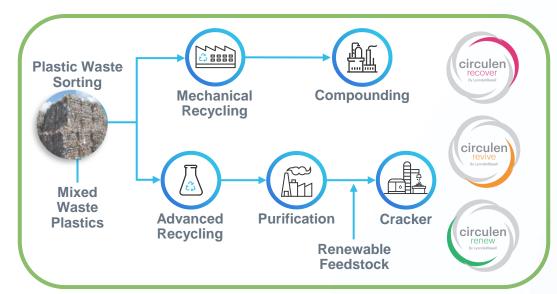
#### **KEY DYNAMICS**

- Plastic waste is localized and extremely fragmented
- Regulations vary by region
- Opportunity to divert plastic waste from incineration and landfills
- Underdeveloped sorting technologies in highly populated areas do not optimize the value of recyclable feedstock at scale
- Mechanical recycling is complementary to advanced recycling
- Existing advanced recycling technologies are in early stages and face higher cost, smaller scale, and lower energy and carbon efficiency

## Our integrated hub model establishes leadership in circular solutions

#### Integrated Hub Concept

- Building scale, reducing cost and capturing value to establish leadership in circular solutions
- Regional hubs to access and supply feedstock into integrated hubs
- Preferred strategic partner to feedstock owners
- · Leveraging existing capabilities at Cologne and Houston sites
- Differentiated and advantaged technologies (e.g., *MoReTec*)
- Collaborating with brand owners to provide a range of optimal solutions via Circulen brands



	Cologne, Germany	Houston, Texas
Plastic waste Sorting	<ul><li>Source One JV</li><li>EEW partnership</li></ul>	<ul><li>Cyclyx agreement</li><li>Houston Recycling Collaboration</li></ul>
Advanced Recycling	<ul> <li>Semi-industrial pilot plant running in Ferrara</li> <li>MoReTec 50 KTA completion by end of 2025</li> <li>Third-party pyrolysis oil offtakes in place</li> </ul>	<ul> <li>Studying MoReTec 100+ KTA</li> <li>Third-party pyrolysis oil offtakes in place</li> </ul>
Purification	Pursuing various options	Potential repurpose of     Houston refinery
Cracker	<ul> <li>LYB cracker and polymer sites</li> </ul>	LYB cracker and polymer sites
Mechanical Recycling	<ul><li>QCP 100% ownership</li><li>APK investment</li><li>AFA Nord JV</li></ul>	<ul><li>Third party offtake</li><li>Mechanical recycling options in progress</li></ul>
Compounding	<ul><li>Mepol acquisition</li><li>APS sites</li></ul>	APS sites
Renewable Feedstock	Multiple renewable diesel feedstock agreements	Multiple renewable diesel feedstock agreements



## Our circular and low carbon solutions

	Technology Feedstock		Process	End products	
Recycling	Mechanical Recyling	Post-consumer plastic material	Requires highly sorted and cleaned waste stream	Consumer packaging & goods*	
Circular R	Advanced Recycling	Hard to recycle plastic material	More tolerant of mixed plastic waste	Incl. food packaging and healthcare applications	
Low Carbon Solution	Renewable bio-based source material	Renewable bio-based material	Requires liquid bio-based feed-stock such as used cooking oil	Incl. food packaging and healthcare applications	



<sup>\*</sup> This product is not intended for highly regulated applications including food contact, potable water contact, medical and pharmaceutical applications.

## Advancing Circularity through Mechanical Recycling

	Technology	Feedstock	Process	End products	
Circular Recycling	Mechanical Recyling	Post-consumer plastic material	Requires highly sorted and cleaned waste stream	Consumer packaging & goods*	

- CirculenRecover products are made from plastic waste through a mechanical recycling process
- Mechanical recycling upgrades plastic waste into usable materials through mechanical processes including sorting, washing, grinding, melting and forming new pellets
- LyondellBasell offers customers high quality PP and PE with mechanically recycled content under our CirculenRecover brand
- Our Mechanical Recycling footprint includes our Quality Circular Polymers (QCP) business in Europe, and planned joint ventures in China and India



## Advancing Circularity through Advanced Recycling

	Technology	Feedstock	Process	End products	
Circular Recycling	circulen Advanced Recycling	Hard to recycle plastic material	More tolerant of mixed plastic waste	Incl. food packaging and healthcare applications	

- · CirculenRevive products are made from plastic waste through an advanced (chemical) recycling process
- Advanced recycling is complementary to mechanical recycling as it expands end use application options and can be used to process a
  wider and broader variety of waste
- Advanced recycling converts plastic waste back to its molecular form, which is then used as a feedstock in our conventional production processes to produce new polymers
- Advanced recycled feedstock is mixed with conventional feedstock during the production process, and allocated to the final polymer using a
  mass balance approach
- LyondellBasell provides solutions for highly regulated food and medical applications with advanced recycled content under our CirculenRevive brand
- We are developing our own advanced recycling technology, MoReTec which combines scale with a leading energy efficiency and carbon footprint



## Advancing Circularity through Renewable Feestock

	Technology	Feedstock	Process	End products
Low Carbon Solution	Renewable bio-based source material	Renewable bio-based material	Requires liquid bio-based feed-stock such as used cooking oil	Incl. food packaging and healthcare applications

- Products with certified bio-based content and reduced CO2 footprint (based Life Cycle Assessment (LCA) providing an objective, science-based technique for calculating environmental performance according to ISO 14040 and ISO 14044. The study was critically reviewed by an independent panel of experts)
- ISCC Plus Bio-Circular certificate and measurable renewable content (C14)
- Second generation feedstock from renewable sources not in competition with food production
- Same properties as their fossil-based equivalents suitable for food-contact packaging, consumer goods and healthcare
- Drop in solution which doesn't require any modification of existing processing equipment



## Our *Circulen* brand of products provides solutions for our customer's sustainability needs and everyday sustainable living



Products made from mechanical recycling processes, including QCP JV



Products made from advanced recycling processes, including proprietary *MoReTec* technology<sup>2</sup>



Products made from renewable bio-based feedstocks<sup>3</sup>



SAMSONITE Magnum ECO suitcase<sup>1</sup>



L'OCCITANE EN PROVENCE cosmetic packaging tubes<sup>1</sup>



CORINE DE FARME personal care packaging<sup>1</sup>

Building business and operating models to support rapidly growing customer demand

with over 100 employees dedicated to business unit by end of 2024

#### 123,000 Tons

of recycled and renewable-based polymers produced and marketed in 2023

#### 2,000,000+ Tons

of recycled and renewable-based polymers produced and marketed annually by 2030

Approximately 20% of 2022 PE and PP sold globally by LyondellBasell



1. Customer applications using Circulen products.

2. The advanced recycled feedstock is mixed with conventional feedstocks in our process and allocated to CirculenRevive products using a mass balance approach certified according to the International Sustainability and Carbon Certification (ISCC) PLUS standard.

3. These feedstocks are used in our conventional production processes along with conventional feedstocks and are allocated to CirculenRenew products using an ISCC PLUS-certified mass balance approach.

## Abriso & LyondellBasell







Foam PE







GX5112 at least 50% PCR



## Sustainability | LyondellBasell















## Professor Goutam Challagalla: How to develop a winning sustainability strategy



What sustainability game are you playing?

Goutam Challagalla

Dentsu Group Chair of Sustainable Strategy and Marketing







2. ESG ratings – what they mean

3. The three mindsets toward sustainability







## The shift in perspective



#### **January**

Consider the
average
carbon
footprint by a
citizen in
Africa (e.g.,
Kenya) in a
year.

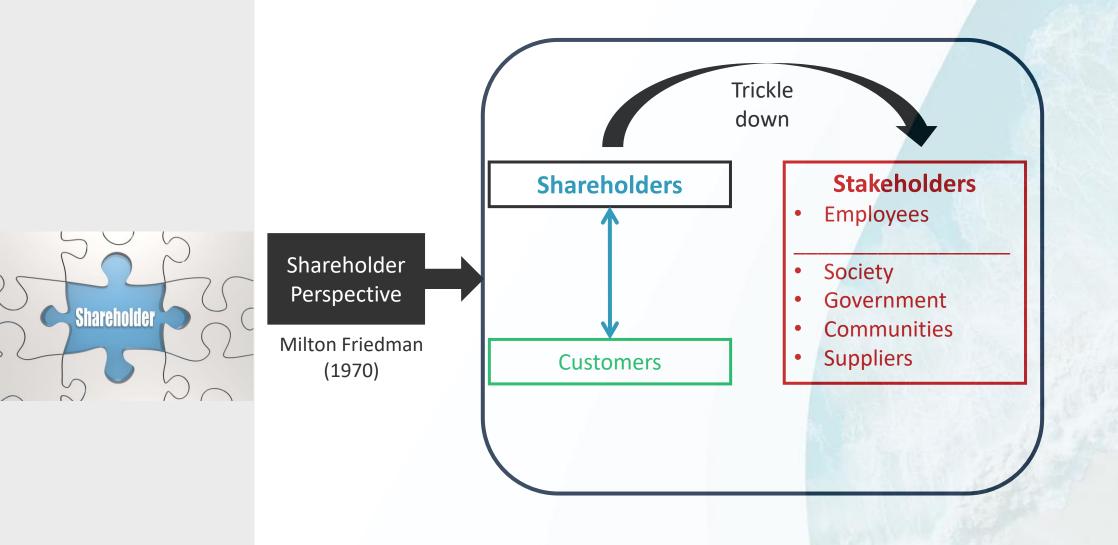
How many months will it take an average UK citizen to have the same carbon footprint?

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1	2 DRC
3	4 Somalia Burundi	5 Chad CAR	<b>6</b> Malawi Rwanda	7 Niger	8	9 South Sudan Madagascar
10 Sierra Leone Uganda	11 Ethiopia	12 Guinea-Bissau	13	14 Afghanistan Tanzania	15 Burkina Faso	16 Mozambique Eritrea
17 The Gambia Guinea	18	19 Liberia	<b>20</b> Togo Mali	21 Haiti	22 Comoros	23 Yemen
24 Cameroon	25 Kenya	26	27 Cote d'Ivoire	28	29 Nepal	30
31 Zambia						

#### **January**

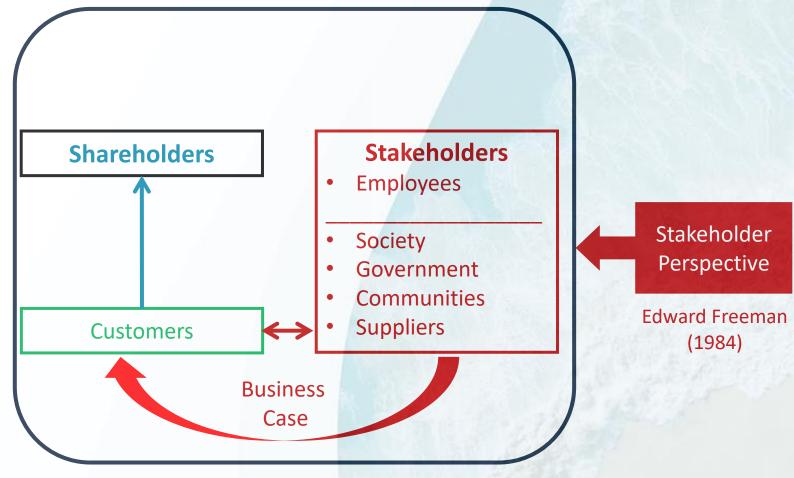
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1 DRC	Somalia Burundi Chad CAR
3 Malawi Rwanda Niger	4 South Sudan Madagascar Sierra Leone Uganda Ethiopia Guinea-Bissau	5 Afghanistan Tanzania	6 Burkina Faso Mozambique Eritrea The Gambia	7 Guinea Liberia Togo	8 Mali Haiti Comoros Yernen	9 Cameroon Kenya
10 Cote d'Ivoire	11 Nepal Zambia	12 Sudan	13 Timor-Leste Djibouti Bangladesh Ghana	14 Solomon Islands	Myanmar Congo, Rep. Vanuatu Senegal	16 Sao Tome and Principe Nigeria
17 Cambodia Benin Kiribati North Korea	18	19	<b>20</b> Tajikistan Nicaragua	Zimbabwe Papua New Guinea Tuvalu	22 Angola Mauritania	23 Eswatini
24 Pakistan Sri Lanka	25 Honduras	26 El Salvador	27 Guatemala	28 Cabo Verde	29 Paraguay	30 Lesotho

Days by which an average US citizen will have produced the annual carbon dioxide emissions of a citizen in other countries









#### **Business Case for Sustainability**

- Mitigate risk
- Build public reputation and relevance
- Enhance innovation impact
- Transform mission (purpose) and employee motivation



















5<sup>th</sup> largest FMCG firm

€60.1B revenue in 2022

© Goutam Challagalla















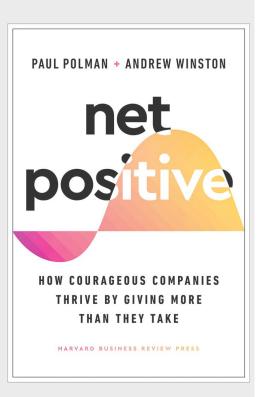






Unilever spent €7.8 billion on branding and marketing investments in 2022





"Sustainable Capitalism"

#### Five Core Principles

- 1. Ownership of all impacts and consequences, intended or not
- 2. Operating for the long-term benefit of business and society
- 3. Creating positive returns for all stakeholders
- Driving shareholder value as a result, not a goal no more reporting of quarterly results
- 5. Partnering to drive systemic change (e.g., deforestation goals to be achieved in partnership with NGOs, Governments, Suppliers)



## logitech



ERGO K860 for Business

11.14 kg CO<sub>2</sub>e



**ERGO K860S Wireless** 

11.14 kg CO<sub>2</sub>e



K275 Wireless

5.38 kg CO<sub>2</sub>e



**K295 Silent Wireless** 

5.41 kg CO<sub>2</sub>e



K380 Multi-Device Bluetooth Keyboard

5.98 kg CO<sub>2</sub>e



K380 Multi-Device Bluetooth Keyboard for Mac

5.98 kg CO<sub>2</sub>e



K580 Multi-Device Wireless

6.43 kg CO<sub>2</sub>e



K835 TKL Mechanical

12.71 kg CO<sub>2</sub>e



K845 Mechanical Illuminated

17.85 kg CO<sub>2</sub>e



MX Keys for Mac

16.92 kg CO<sub>2</sub>e



POP Keys

15.05 kg CO<sub>2</sub>e



Keyboard K120

4.02 kg CO<sub>2</sub>e

4.90 kg CO<sub>2</sub>e



MX Keys Wireless

16.92 kg CO<sub>2</sub>e



MX Keys Mini Illuminated Wireless

10.78 kg CO<sub>2</sub>e



MX Keys Mini for Mac Wireless

9.96 kg CO<sub>2</sub>e



K780 Multi-Device Wireless

9.48 kg CO<sub>2</sub>e

SS N400 Flus W



K400 Plus Wireless Touch K280 Pro Corded

7.56 kg CO<sub>2</sub>e



Ergo 860 Wireless

11.14 kg CO<sub>2</sub>e

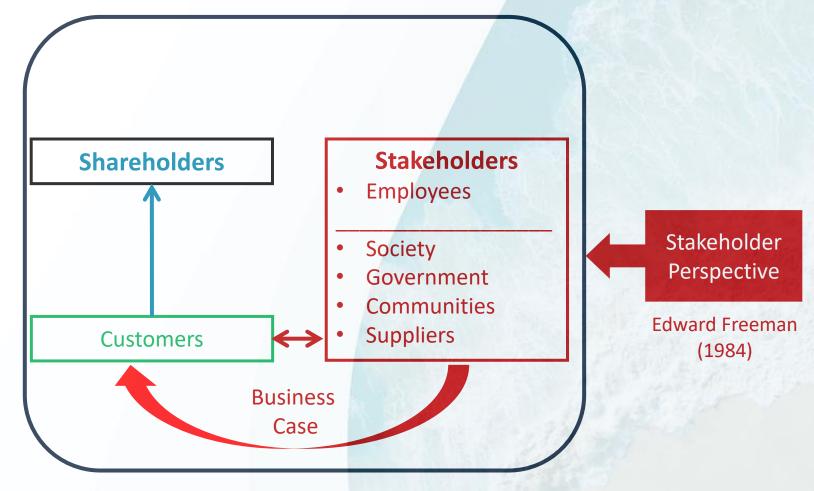




# Sustainability Mindsets & the Business Case for Sustainability







#### **Business Case for Sustainability**

- Mitigate risk
- Build public reputation and relevance
- Enhance innovation impact
- Transform mission (purpose) and employee motivation





#### Sustainability Mindsets, Investments, and Impact

Business Case for Sustainability

1 Mitigating risk

Building public reputation and relevance

Enhancing innovation impact

Transforming mission, and motivation



Sustainability Investments (Priorities & Projects)



Sustainability Impact (People & Planet)









#### Mindset determines business case priorities



Sustainability **Minimalists** 

Sustainability **Trenders** 

3

Sustainability **Integrators** 

Sustainability **Enthusiasts** 





#### Sustainability Mindsets, Investments, and Impact

Sustainability Mindset & Link to Business Case for Building public reputation Enhancing Transforming mission, and Mitigating Sustainability and relevance innovation impact risk motivation 1 Sustainability Sustainability Sustainability Sustainability **Trenders Minimalists Enthusiasts Integrators** Sustainability Investments (Priorities & Projects) **Financial** Sustainability Impact Results (People & Planet) (Profit)

IMD

## Mindsets: Effort and Recognition

Reputation for Sustainability (e.g., Awards)

'Sustainability Enthusiasts'

'Sustainability Integrators'

'Sustainability Trenders'

'Sustainability Minimalists'

Effort into Sustainability
Beyond Compliance





#### Mindsets: Effort and P&L Results

P& L Results

'Sustainability Enthusiasts'

'Sustainability Integrators'

'Sustainability Trenders'



'Sustainability Minimalists'

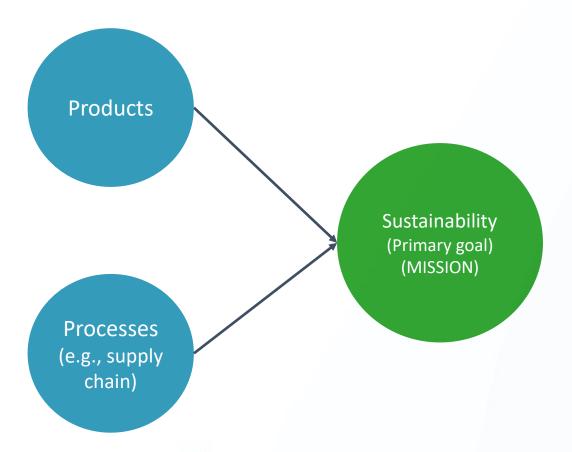
Effort into Sustainability
Beyond Compliance

#### **Busy Effort** 'Sustainability Enthusiasts'



#### **Busy Effort 'Sustainability Enthusiasts'**

How do we become *more* sustainable?

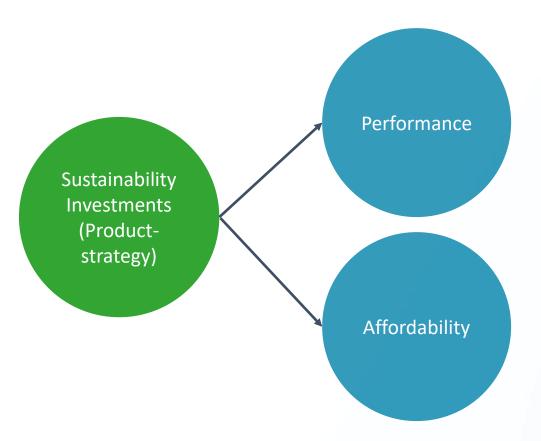


#### Sustainability Enthusiasts

- 'Sustainability' is "an end" in itself
- Become the sustainability leader raise the 'overall' bar on sustainability internally and with partners
- Develop a sustainability strategy
- Achieving sustainability target is the primary goal and major 'customer value' tradeoffs are made in preference of sustainability

#### **Good Effort 'Sustainability Integrators'**

#### **Traditional Benefits**



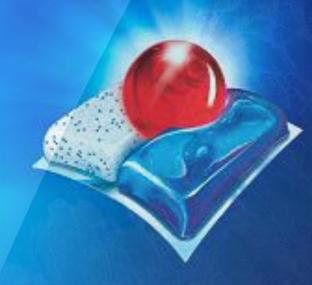
**BY** investing in sustainability, how do we improve core benefits of our products?

#### Sustainability Integrators

- Sustainability is never the primary need of customers
- No sustainability strategy it enables your strategy
- Recognize customer differences 'Green,'
   'Blue,' and 'Grey' customers
- Sustainability investments are directed toward improving 'traditional' (core) benefits and/or affordability

## NEW TUB PACKAGING







SOLUBLE WRAPPER-FREE TAB WITH BIODEGRADABLE 100% WATER-SOLUBLE FILM

"TUB USES A SPECIAL BLACK DVE WHICH MEANS IT CAN BE RECYCLED.



## HAND DISHWASH

(Only 20% HHs)



103

LITERS



57 LITERS

10

LITERS













# ATAB SO POWERFUL

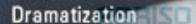
You Can #SkipTheRinse



## SAVE UP TO 75L OF WATER PER LOAD

All water data sourced from SGS and Nielsen.

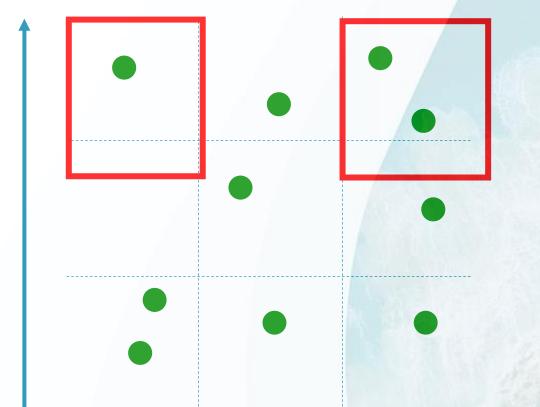








Customer Value (Performance and Affordability)



Impact on Sustainability

Sustainability investments (projects)



- 1. What is the dominant mindset in your firm?
- 2. What questions do you need to ask in your firm to become an Integrator?
- 3. How can Abriso Jiffy and clients help each other integrate sustainability into your strategy?







## Thank you

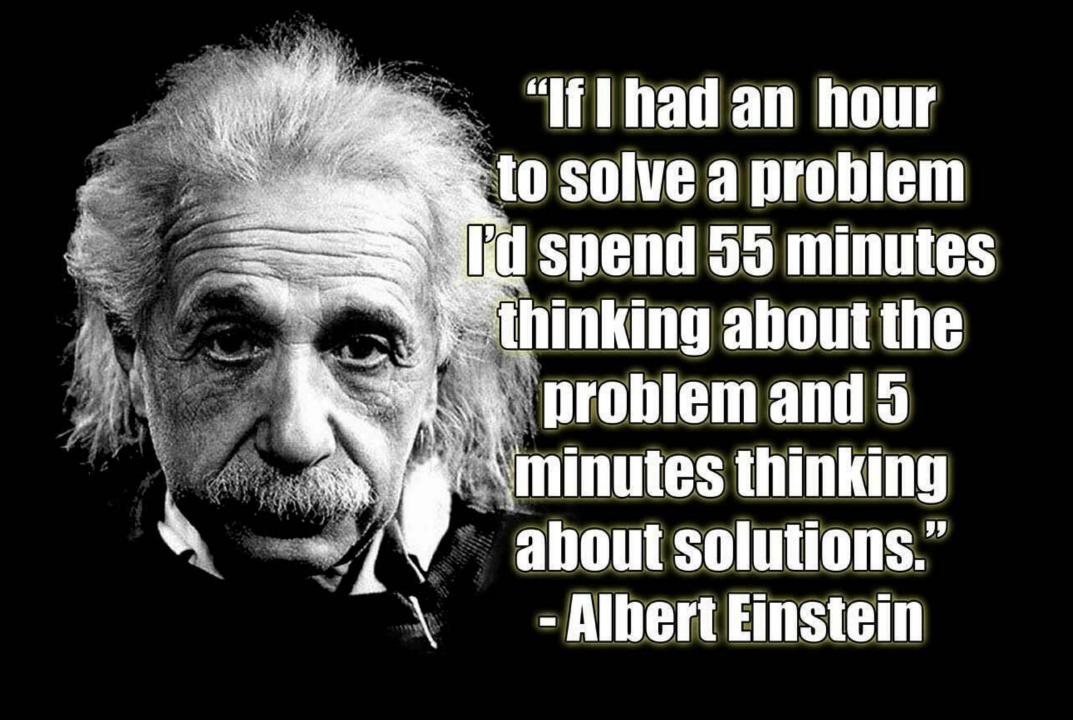
Goutam Challagalla @imd.org







## Ulrich Van de Woestyne: Overview sustainability strategy Abriso Jiffy



#### Unfortunately, the debate of sustainability is full of emotions and wrong statements

ask the parliament to close all

nuclear power plants Belgium

**December 2021: Minister of Energy** 

Federaal minister van Energie Tinne Van der Straeten (Groen). @ BELGA

Minister Van der Straeten wil alle kerncentrales sluiten: "Als coalitiepartners dit aanvaarden, zijn ze medeplichtig aan de gevolgen", zegt De Wever

Federaal minister van Energie Tinne Van der Straeten (Groen) bepleit de sluiting van alle zeven kernreactoren van ons land.

March 2023: Minister of Energy investigates to build new nuclear power plants in Belgium

Groen zet deur toch open voor bouw nieuwe kleine kerncentrales: "We kijken met een open blik naar de toekomst"



klaar dat de energiemix voor de periode 2035-2040 moet regelen en daar is ook plaats voor die nieuwste generatie als die er tegen dan zijn. Zo wil Van der Straeten ook komaf maken met het verwijt dat ze dogmatisch tegen kerncentrales is. "We kijken met een open blik naar de toekomst", klinkt het.



## What is the problem that the packaging industry wants / needs to solve?

Create a circular supply chain to reduce the use of natural resources

Reduce the CO2 footprint of our circular supply chain



## What is the problem that the packaging industry wants / needs to solve?

Create a circular supply chain to reduce the use of natural resources

Reduce the CO2 footprint of our circular supply chain

Convey a simple, resonating fact-based message



# Even multinationals in the paper and plastic industry still commit greenwashing

"Up to 90% recycled content"

"100% Recyclable Recycled"

"Made out of recycled content"

. . .



# Abriso Jiffy statements are certified by a third-party auditor in line with the European norm (EN 15343)

"Made out of recycled content"

"Up to 90% recycled content"

"100% Recyclable Recycled"

. . .









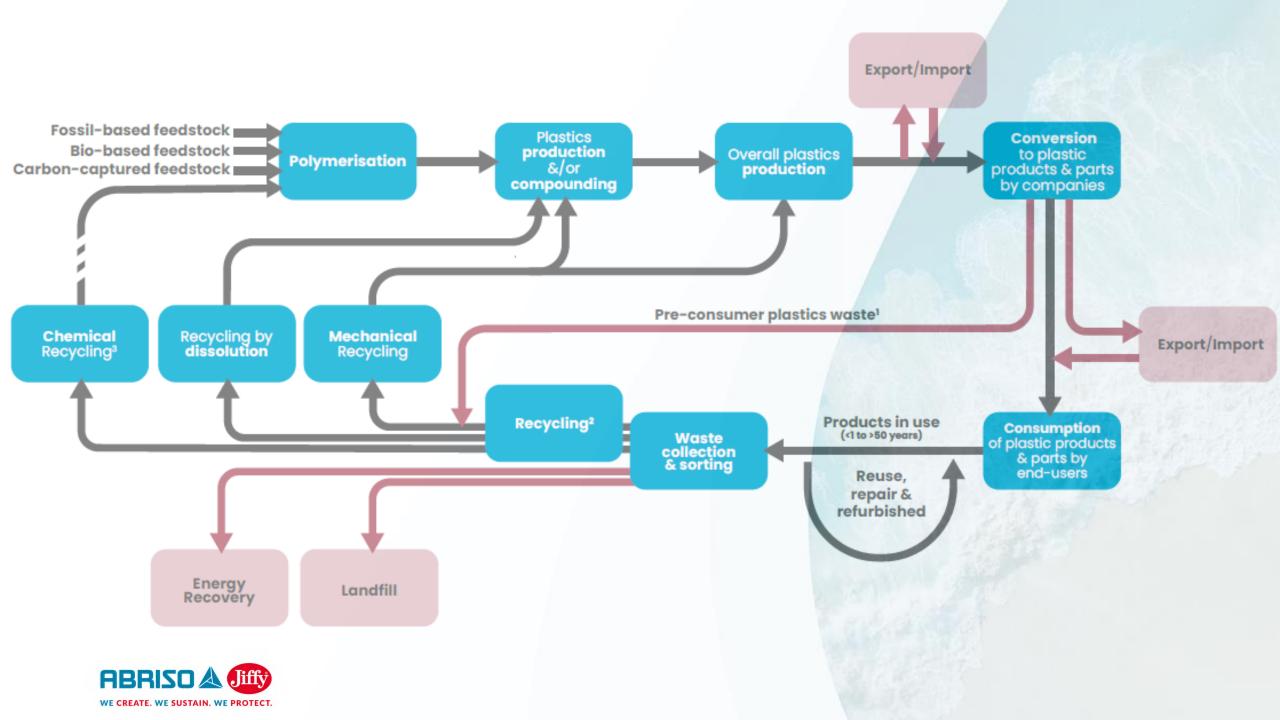
## What is the problem that the packaging industry wants / needs to solve?

Create a circular supply chain to reduce the use of natural resources

Reduce the CO2 footprint of our circular supply chain

Convey a simple, resonating fact-based message

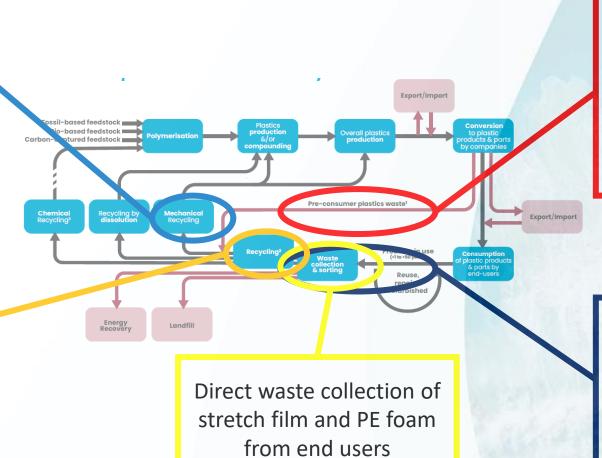




# Our main initiatives to create a circular supply chain and increase our recycled content

R&D to boost MFI to increase access to general household LDPE waste (PMD bag)

Upgrading our recycling assets with additional filters to increase access to polluted waste streams



with our clients to collect material that is discarded because of trimming, faulty items, etc. re-enters the supply chain

Co-development of monomaterial products:

Unilin: PE foam & PE Film

Scania: PP Foam & PP Film



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Foss, based feedstock
Bio-is red feedstock
Carbon-captb, of feedstock
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Recycling I Recycling by Recycling I Recy

foam from end users

RENEW program set-up with our clients to collect material that is discarded because of trimming, faulty items, etc. re-enters the supply chain

Co-development of monomaterial products:

Unilin: PE foam & PE Film

Scania: PP Foam & PP Film



Those efforts are the foundations to grow our sustainable product offering

	Bubble	Foam (20-35 kg/m³)	Profiles (33-50 kg/m³)
Virgin	0%	0%	0%
Ocean Green Light	30%	30%	30%
Ocean Green	70%		100%

	Technical Foam
Virgin	0%
Renew Light	30%
Renew	80%



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# Question: What is has the lowest CO2 footprint: recycled carboard corners or foam corners?

Recycled cardboard corners: 36.4 g CO2 to protect the Mona Lisa

OCEAN GREEN® Foam corners: 3.8 g CO2 to protect the Mona Lisa







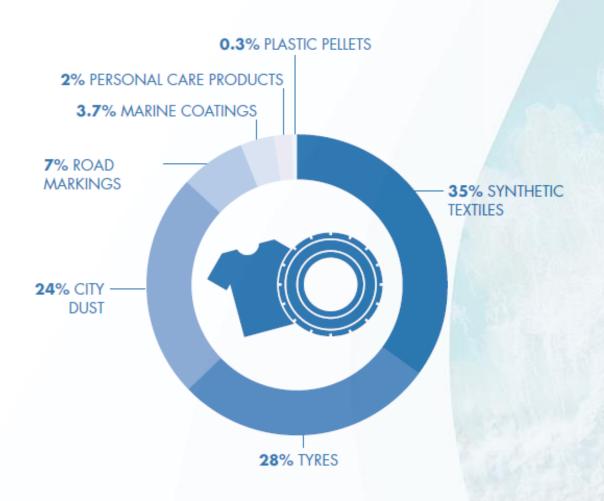
Sources: Bilan Carbon & DVdB Consulting

# Furthermore, a lot of R&D effort is spent to reduce CO2 footprint of our production process

R&D project	Project name	Project description	Status
2	MFI boosting of PCR waste streams	Research impact of PCR content in our foam/bubble materials.  - What are the processing restrictions  - What are the PCR material requirements  - PCR supply  - Which types of PCR is available on the market and specifications	<ul> <li>Trials on-going to use general PCR material as feedstock in foam processing.</li> <li>Project will be started to investigate use of PCR from multiple sources for foam applications</li> </ul>
5	Recycled content in thin foam	Currently recycled content in thin Foam has technical limitation on 30% - review new recipes to increase the recycled content	Analysing the issues in thin foam production with higher recycled content %. Trials planned to increase the recycled content amount in technical foams (Polylam + Nopaplank)
7	Bio (degradable) resin	PLA for foam production: - What is the possible application? - (dis)advantages? - processing restrictions and capabilities	Bio-renewable resins available for commercial production, testing on-going for evaluation of impact on material properties of final products.  Research regarding PLA as a possible feedstock for foaming application and products
23	Change I-butane as foaming gas to CO2	Replacement high carbon footprint blowing gases with low carbon footprint blowing gases (DME, isobutane, HFK152a)	Investment in new CO2 pressure pump – research ongoing with extruder suppliers
27	End-of-Life analysis	LCA analysis of our products with University Gliwice	Meeting set up with University to investigate the possibilities and potential.



#### All good, but what about micro plastics?





Source: IUCN 2017: 'Primary Microplastics in the Oceans'



