

## Our position

# Clarity and consistency key for Sustainable Product Policy



AmCham EU speaks for American companies committed to Europe on trade, investment and competitiveness issues. It aims to ensure a growth-orientated business and investment climate in Europe. AmCham EU facilitates the resolution of transatlantic issues that impact business and plays a role in creating better understanding of EU and US positions on business matters. Aggregate US investment in Europe totalled more than €2 trillion in 2018, directly supports more than 4.8 million jobs in Europe, and generates billions of euros annually in income, trade and research and development.

## Introduction

The Circular Economy Action Plan and the Sustainable Product Initiative (SPI) roadmap emphasise the importance of improving information flows across value chains and to consumers as well as the benefits digitalisation could bring in this respect. They clearly recognise the need to revise the Ecodesign Directive and propose additional legislative measures as appropriate, with the aim of making products placed on the EU market more sustainable.

Consumers, the environment and the climate will benefit from products that are more durable, reusable, repairable, recyclable and energy-efficient. Whether the harm produced by products is to the environment, society or directly to people, all damage results – directly or indirectly – in a threat to human health.

The Sustainable Products Initiative is one of many initiatives that are currently being drafted or submitted for consultation or that have recently been published by the Commission which are aimed at fostering the manufacturing and consumption of more sustainable goods. Such initiatives include: the EU Strategy for Textiles; the ‘Safe and Sustainable-by-Design’ concept in the Chemicals Strategy for Sustainability; the Strategy for a Sustainable Built Environment; the review of the rules on end-of-life vehicles; the proposal on Substantiating Green Claims; and the Circular Electronic Initiatives, among many others (including eg eco-design requirements for specific product groups). Coherence among all policies is therefore critical to guarantee predictable and clear regulatory frameworks.

Enforcement mechanisms, market surveillance and custom control are, moreover, fundamental to ensure a level playing field. AmCham EU’s members take regulatory compliance very seriously and support authorities in their efforts to reinforce controls and ensure that only compliant products are placed on the market.

The roadmap, as described in the consultation now published, aims also at extending digitalisation processes as a way to improve identification of the products and responsibilities of the manufacturers as well as to enable the tracking and verification throughout complex value chains and appropriate end-of-life treatment. In this respect, the digitalisation of information and tracking of product performances and characteristics has been recognised as a turning point in the internal market.

In such context - and after consideration of the recently published Batteries Regulation which provides a blueprint of the European Commission’s possible approach on information to consumers, product sustainability and digitalisation - we would like to recommend a consistent and clear approach.

## Recommendations in line with the Sustainable Products Initiative public consultation

### 1) Scope of Ecodesign

- Design is a crucial phase to improving product sustainability and we take note of the need to extend the scope of the Ecodesign Directive. A harmonised and broadened eco-design framework is an important contribution to a level-playing field for the assessment of different products and material applications. Diverging eco-design product rules amongst Member States represent a barrier to intra-EU trade and makes it harder for consumers to access and for companies to offer products cross-border. The Commission must take decisive action in line with the principles established by the Single Market Transparency Directive (EU) 2015/1535 to avert a fragmentation of EU product rules.
- It is worth noting that the Ecodesign Directive is not the only policy in place setting sustainability requirements. Therefore, the sustainability criteria should be mindful of existing sector-specific frameworks to avoid double regulation. As an example, the Ecodesign Directive should not cover packaging, as this is already regulated through the Packaging and Packaging Waste Directive (currently under review).

- Impact assessments on the potential inclusion of new priority product groups identified in the Circular Economy Action Plan (ie electronics, ICT, textiles, furniture, cement, chemicals) must be thorough and include consultation with representatives from all relevant stakeholder groups across the value chain.
- We encourage the Commission to utilise existing international product standards as a basis for future eco-design implementing measures and to take stock of industry-wide and internationally oriented standards that facilitate international trade and reflect the technological state of the art.
- We agree that the Ecodesign Directive offers a comprehensive and reliable regulatory instrument to promote sustainability requirements covering the entire lifecycle of products, based on scientifically based life-cycle assessments. Where extensive assessments have been conducted to define eco-design requirements for certain product categories, these must be recognised and taken into account when considering measures under legislation that is more narrowly focused. In particular, substance restrictions and assessment should be dealt within the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and Restriction of Hazardous Substances (RoHS) processes and not under the Ecodesign Directive in order to avoid overlap and ensure policy coherence and a consistent implementation of EU law.
- Enforcement and market surveillance will be key moving forward. The Commission should build on existing instruments under the Ecodesign Directive to ensure that national enforcement authorities can verify that requirements defined at the EU level are being respected through different conformity assessment methodologies.

## 2) Sustainability criteria

- AmCham EU members welcome the approach adopted by the Commission in its public consultation on Sustainable Products Policy to define sustainability criteria, not horizontally, but rather at product group level.
- In addition, we believe that the definition of criteria should be carefully considered in light of the following points:
  - Comparing products according to their carbon footprint offers the advantage of having an indisputable and easily comparable metric in terms of emitted tons of CO<sub>2</sub>. However, a clear and standardised methodology to assess carbon footprints is not yet available at EU or international level for all product categories covered by the scope of the future SPI.
  - Assessing the overall environmental footprint of a product is very complicated. While we welcome the efforts made to develop the Product Environmental Footprint (PEF) methodology and recognise that Product Environmental Footprint Category Rules (PEFCRs) have been successfully developed for some product categories, the EU pilot phase has shown it can be difficult to achieve consensus across industry and to establish comprehensive methodologies. Product differentiation based on life-cycle assessment (LCA) may be premature for some product categories.
  - Similarly, assessing products according to their percentage of recycled content is premature in the absence of a legal definition of what 'recycled content' and 'recyclability' concretely mean. In this respect, developing definitions is a matter of priority. In our view, such definitions should be open enough to encompass content coming from mechanical and chemical recycling in order to foster the uptake of innovative recycling technologies and to

increase the range of recyclable products and materials.

The preliminary final analysis of the preparatory study for the Ecodesign and Energy Labelling Working Plan 2020-2024 is extremely cautious regarding mandatory reincorporation of post-consumer recycled content<sup>1</sup>. In this respect, we fully subscribe to the recommendation of launching a more detailed study and pilot projects on this topic before considering any broad regulatory measure; taking into consideration the availability of technological options and access to feedstock by sector.

- Regarding the presence of hazardous substances that may hamper recyclability, we believe that increased recyclability should not be seen as the precondition but rather, in a dynamic perspective, as the outcome of a successful circular economy transition. If we adopt a strict approach on this, the EU economy will lock itself in one single direction where every product must to be designed to fit only recycling requirements based on currently available technologies. This is not the best solution to improve the overall sustainability of products, reduce their carbon footprint and grasp the benefits of innovative recycling technologies – indeed, it may hamper innovation and investments in new products and recycling technologies. It must also be stressed that there is not one possible single definition of substances that may hamper recyclability. Substances are added in products to fulfil certain, sometimes important, technical characteristics. For instance, flame retardants may inhibit recyclability but cannot be simply removed without having a proper alternative at hand just for the sake of recyclability.
- It is worth noting that regulation of hazardous substances is currently covered by REACH and CLP and that these existing legislation should remain the instruments by which the safe handling and use of substances in products is ensured; regardless of whether they are made from recycled or virgin material and especially when it comes to addressing substances of very high concern. Moreover, considering the Commission’s recently communicated intention to revise REACH and CLP and to develop criteria within the ‘Safe and Sustainable-by-Design’ initiative, it is essential that overall consistency in EU legislation on products and chemicals is maintained. We believe that the Sustainable Product Initiative should not be the means by which to regulate the presence of substances in products which could hinder recyclability and eventually ban them.
- Product sustainability must therefore be addressed in a holistic way. The sustainability criteria identified (durability, reusability and reparability) must concur first and foremost with the key objective of reducing the overall environmental footprint of products along their lifecycle. As trade-offs are inevitable among these criteria, they must not be cumulative in principle. Manufacturers must rather have the flexibility to strike the right balance between them, for each of their products.

### 3) Sustainability incentives

- Rules on environmental/sustainability performance of products and services must be accompanied by economic incentives for customers to opt for such products and services. This would create coherence between supply and demand along the environmental goals. Incentives should be harmonised at EU level or at least follow some clear EU guidelines to avoid a fragmented market for both industry and consumers. Harmonisation should be done by product/sector and avoid one-size-fits-all solutions.
- Consumer education plays a key role in encouraging the market adoption of sustainable technologies and products. Products that comply with the sustainability criteria should clearly express their

<sup>1</sup> [https://ec.europa.eu/growth/content/preparatory-study-ecodesign-working-plan-2020-2024\\_en](https://ec.europa.eu/growth/content/preparatory-study-ecodesign-working-plan-2020-2024_en)

sustainability characteristics to the value chain and consumers, aligned to the Green Claims Directive to prevent greenwashing.

- Incentives should be based on standardised performances (ie standardised methodologies for product performance measurement) and – where applicable – on product scores according to the relevant harmonised criteria. In addition, where products and services have a safety-related application, incentives should consider both the environmental/resource efficiency aspect as well as the safety performance. Existing Extended Producer Responsibility (EPR) schemes, based on the minimum requirements set by the Waste Framework Directive, play an important role in promoting sustainable design of packaging and products. We support further harmonisation of criteria for EPR fee modulation, eg through Commission Guidance. EPR schemes should be based first and foremost on the net cost principle (revenue from the sale of secondary raw materials should be used to offset operational costs). The criteria and definitions applicable for eco-modulation must be harmonised at EU level and be coherent with EU legislation and international standards while also taking into account product/sector-specific conditions.
- The implementation of EPR schemes varies widely across the EU; both between Member States and between different product categories. This has led to complex and confusing EPR requirements which create significant administrative and financial burdens and barriers to intra-EU selling. By creating an EPR ‘one-stop-shop’ for registration and reporting, the Commission could drastically reduce the administrative burden faced by sellers of sustainable products across the Single Market.
- We also welcome the idea that producers’ voluntary commitments to increase product sustainability should be recognised but expect clarifications on how this would be concretely implemented.
- We agree that there is room to mobilise public procurement (ie through green public procurement [GPP]) in order to boost the uptake of sustainable products. We support synchronised EU rules for minimum requirements on GPP based on a sector-by-sector assessment. As for other purchasing incentives, we support the principle that GPP should favour those products which meet the highest performance level from an environmental, safety and resource efficiency perspective. More work could be done at the EU level to ensure sustainability criteria are consistently applied for public procurement exercises carried out at Member State level, such as public tenders and auctions.

#### **4) Market surveillance and custom controls are key to ensure the sustainability agenda is implemented**

- Illegal trade is a significant issue that can jeopardise the goals of the European Green Deal initiative, especially when it comes to the Sustainable products initiative.
- If sustainable products are to become the norm, we must ensure a level playing field and enforce market surveillance in the EU to ensure that only products compliant to the EU regulations are placed on the market.
- Many improvements have been included in the text of the recent revision of the legislation on ‘Compliance with and Enforcement of Union Legislation on Products’ adopted in 2019, which also aims to support joint activities promoting compliance, providing an EU-wide legal basis for market surveillance authorities to join forces with organisations representing economic operators.
- The provisions of the new legislation on market surveillance will help protect manufacturers from unfair competition as soon as the legislation becomes fully applicable (July 2021).

- However, notwithstanding the steps forward this legislation will hopefully deliver, authorities are still struggling to react to illegal imports and non-compliant/counterfeited products placed on the market. It is therefore essential that further steps are taken such as improving enforcement; imposing harmonised and dissuasive penalties; and quickly introducing the EU Single Window Environment for Customs. It is essential that customs authorities stop and confiscate illegal imports and products not compliant with applicable EU regulations.
- Sales of certain chemicals through e-commerce has increased significantly over the last few years. These products that are sold on unconventional internet platforms often do not comply with European regulations, are difficult to track and are placed illegally on the market; undermining climate goals and posing a serious risk to end users.

## 5) Digitalisation of information and Product Passport Agenda

### a. Objectives and overall architecture of the digital product passports and databases

- Communication and transparency along value chains as well as information to the end-user is important. Such efforts should help drive consumption choices towards more sustainable products and improve waste sorting and recycling. The Commission's ambition to reap the benefits of digitalisation by developing digital product passports (DPP) is welcomed, but should be carefully calibrated and assessed against its potential drawbacks.
- We believe that the comprehensive system currently prepared by the Commission, if based on the model of the Batteries Regulation, would be extremely time-consuming and will likely lead to a massive increase in red-tape and costs throughout value-chains. In this respect, it is worth highlighting the effects that a massive increase in data-gathering and processing can have on product cost, competitiveness and trade as underlined in the Batteries Regulation impact assessment.
- It is worth noting that - even in the proposed regulatory framework on batteries - the requirements for the Electronic Exchange Platform have been limited to industrial and electronic vehicle batteries, while portable and automotive batteries have been excluded. This raises serious doubts regarding the practical implementation of such costly systems for fast-moving consumer goods (FMCGs) and other everyday consumption products.
- The question of interoperability and coordination between several electronic exchange systems and product passports is also important given that the Sustainable Products Policy Initiative foresees addressing both final and intermediary products. In both cases, special attention must be paid to interoperability and coherence with existing or legally required databases (the Substances of Concern In articles as such or in complex objects [Products] database; European Product Database for Energy Labelling [EPREL] database; and the Information and Communication System on Market Surveillance [ICSMS] platform in particular) in order to limit administrative burden and duplication.

### b. Different information requirements are needed

- Information requirements should first and foremost be adapted, proportional and relevant for the intended purpose.
- Information to end-users must be clear, concise, relevant, comprehensible, reliable and easily accessible at the time of purchase in order to provide a real added value. Information requirements

must in this respect be well-defined, measurable, harmonised and should be limited to what is really adding value.

- We support the Commission's objective to increase access to digital information. The DPP is the right tool to make product information required by law (which does not need to be readily available when the product is used) available to consumers, regulators and other stakeholders such as entities involved in packaging waste management activities. The DPP can also provide greater prominence of essential information on pack by reducing information overload on the packaging; promote the functioning of the Single Market by allowing products to satisfy the legal requirements in more EEA markets; and help reduce the costs and waste associated with packaging/label changes resulting from legal and/or product changes over time.

To ensure that all consumers can access the Digital Product Passport, several access options should be available:

- Scanning the product by the consumer itself; and/or
- Possibility to scan the product at point of sale through machines made available by retailers.
- To make the Digital Product Passport effective and cost-efficient, we support the following principles:
  1. The DPP should contain information that is legally required by EU legislation (eg chemical legislation, Ecodesign, product specific legislation). On that basis, information requirements should be tailored to different product categories;
  2. Interoperability with other datasets (eg SCIP) must be ensured.
  3. Different information could be available to different groups:
    - a. Information for consumers: On-pack information should be targeted and sharp (mainly provided through icons) to avoid information overload and the need for additional packaging materials. When more detailed information is to be provided, this should be made available and accessible online through a digital passport.
    - b. Information for economic operators along the value-chains: A digital passport can help increase communication and transparency along the value chain and with waste management operators to ensure safe and efficient recycling operations. In that framework, access to the passport should be exclusively limited to accredited economic operators. In such a secure environment the following information could be shared: information on proper dismantling and waste treatment of products; the presence of Substances of Very High Concern (SVHCs) through a link to the SCIP database; etc.
    - c. Information for authorities on compliance of products with EU legislation or information on poison centres for relevant product categories.
  4. The unit of reference of the Digital Product Passport should be established on the basis of the nature of the specific product. For instance, for articles, the default unit of reference should be the product model as defined by existing legislation (eg New Legislative Framework legislation). This will facilitate the uptake of the DPP, as companies can use their existing data systems to implement the DPP and avoid unnecessary costs and complexities associated with DPP defined by individual products. Individual DPP would result in significant economic costs associated with the maintenance of millions of DPP and large environmental impacts. The high cost of DPP by

individual products will likely outweigh its benefits: as products belonging to the same product model generally share similar environmental characteristics, the added value of DPP by individual products is perceived to be low.

### **c. Economic operators' responsibilities and sensitive data protection**

- When it comes to the responsibility of economic operators to share information, we acknowledge that the Batteries Regulation considers that the economic operator placing an industrial or electric vehicle battery on the market should be responsible for their attribution of a unique product passport and for filling in the relevant information. In this framework, it is important to clarify which markets shall be considered.
- In the case of complex products, such as electric and electronic equipment, there could be several electronic exchange systems to be updated and product passports to be established. This may complicate the tracking of information and the allocation of responsibilities for data sharing.
- Similarly, in the case of repurposing or remanufacturing a product, it should be clear that the responsibility to update the information is transferred to the remanufacturer who will be placing a remanufactured product on the EU market.

Clarification of data protection obligations and the potential liabilities in case of data breach is essential, and must be clarified upfront.



# The Circular Economy

15 innovative industry solutions that drive a sustainable future







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# Introduction

As the global population continues to grow, our planet is struggling to respond to the consequences of today's economic models. In particular, linear processes, whereby products are discarded quickly after their use, put increased pressure on the earth's finite resources.

It is clear that we need to transition to more circular and sustainable economic systems and low-carbon operations. Such systems and operations seek to optimise resource management and extend the useful life of products. They prevent and reduce waste generation and CO<sub>2</sub> emissions by encouraging reusability, reparability, recoverability and recyclability.

In Europe, the circular economy promises to maintain the value of products, materials and resources for as long as possible, while protecting human health and the environment. It strives to strengthen the competitiveness of the EU, ensuring global leadership in the development and use of cutting-edge technologies, practices and business models. In 2016, circular activities in the EU generated almost €147 billion in value added with €17.5 billion worth of investments.

Business involvement is key to the success and implementation of the circular economy in Europe. Already today, the private sector has demonstrated leadership in the development of more sustainable practices. This brochure outlines a series of 'circular' solutions from across member companies of the American Chamber of Commerce to the European Union (AmCham EU). The examples feature different dimensions of circularity: (1) products that make use of recycled or secondary resources; (2) processes that enable the recycling of products or materials; or (3) services that contribute to attaining the circular economy in Europe and globally.

Improved collaboration within the value chain and between industry and governments is critical to advancing and promoting sustainable business solutions. If a supportive regulatory ecosystem exists that maintains competitiveness, it will enable companies to continue to be a driving force in the evolution of the European circular economy, setting a strong example for the rest of the world.

It is important that the EU invests and supports new and dynamic circular practices to help bring these solutions to the forefront of international markets. To that end, this brochure offers a set of recommendations for EU and national policy-makers to encourage more circular economy initiatives and establish a model for Europe's success and a more sustainable future.

# Products

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## Maximising the use of raw materials

There is a need to decrease the use of virgin raw materials, those not previously used or treated, and increase the recovery, reuse and recycling of by-products in manufacturing processes. 3M is committed to addressing this through the increased use of renewable and recycled materials when designing its products and packaging.

3M is advancing this ambitious objective by incorporating recycled content in its Thinsulate™ insulation products, which reduces the use of virgin raw materials and decreases the carbon footprint. Thinsulate™, is a thin, light and warm synthetic fibre insulation that is made from 83% recycled post-consumer material. The use of such recycled materials decreases the reliance on virgin resources, thereby lowering energy consumption as well as air and water emissions. Thanks to a third-party certification by

the Global Recycled Standard, 3M is also able to use polyester that has been recovered from recycled plastic bottles for its insulation.

3M manufacturing plants that produce Thinsulate™ insulation are recycling 100% of their polyolefin waste material, selling it to companies that use it for everything from oil booms to furniture. Thinsulate™ has received the globally recognised Oeko-Tex Standard 100 Class I Certificate for raw and other materials, therefore making it safe and suitable for babies and young children. It also uses bluesign® approved chemical products and raw materials, meaning it is produced in a resource-conserving way with minimal impact on people and the environment.



### Where?

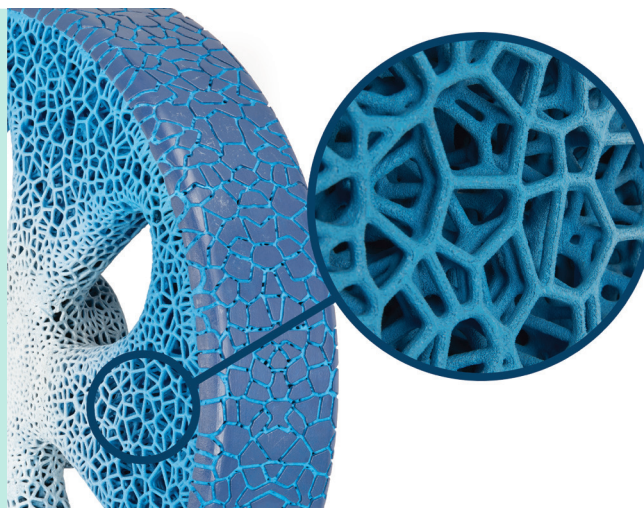
Europe and global

3M manufacturing plants that produce Thinsulate™ insulation **recycle 100%** of their polyolefin waste.



## A tyre for sustainable mobility

The Vision tyre is made of **bio-based and recycled materials**, while being fully rechargeable and biodegradable.



Imagine a future in which tyres are fully sustainable, rechargeable and made of biodegradable materials. Today's tyres, even those designed to the highest quality standards, still have a limited lifespan and are produced using fossil-fuel feedstock.

Vision, Michelin's latest innovation project, will take tyres towards a safer, more intelligent and sustainable future. This concept tyre combines four major innovations to create an organic, rechargeable, airless and connected tyre. It has been designed from bio-sources and recycled materials to minimise its environmental footprint. Moreover, with the aid of 3D printers, the tyre's life can be extended by depositing the right amount of biodegradable rubber to recharge the tread pattern. Its biomimetic alveolar architecture (a sustainable honeycomb-like structure) and sensors provide comfort, safety and will enable the real-time communication of information to consumers.

Designed to optimise resource consumption throughout its life, the Vision tyre is made of bio-based and recycled materials, while being fully rechargeable and biodegradable. This concept provides a concrete solution to product obsolescence and ensures comfort and safety for users. Through continued investment in research and development (R&D), Michelin demonstrates that Vision is a dream within our reach, a feasible roadmap that features innovations already under study, that will progressively come to market in the years to come.



### Where?

France and global

## Pushing the boundaries of sustainable fibre to-go cups

In 2018, Starbucks and McDonald's, later joined by other supporting partners from the food and beverage industry, teamed up in a unique pre-competitive collaboration - the NextGen Consortium. Together with Closed Loop Partners, they launched the NextGen Cup Challenge, an open-sourced, global innovation competition to redesign the next generation of fibre to-go cups for waste reduction. The World Wildlife Fund (WWF) acts as an advisory member of the consortium and OpenIDEO is also an innovation partner.

The challenge aims to design hot and cold fibre to-go cups that are more widely recyclable and/or compostable. The winning solutions will contribute to turning 250 billion paper cups used annually into valuable materials. The consortium recently announced twelve winners amongst which six are European companies. The winning solution designs included: redesigned cup liners, novel materials and reusable

cup service models. All of these advance the NextGen Cup and support the transition towards a more circular economy, where materials are reused and the reliance on raw materials is reduced.

The NextGen Cup Challenge is just the first step of a three-year plan. Building on the initial successes, the NextGen Circular Business Accelerator will support the development of prototype solutions in cooperation with suppliers, consumers, recyclers and composters, to ensure that future winning solutions are properly disposable and can be successfully reused.



### Where?

Belgium, Finland, France, Germany, the Netherlands and the UK

The winning solutions will contribute to turning **250 billion paper cups** used annually into valuable materials.





# Processes

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## From the sky to your desk

Aircraft are amongst the most complex machines to build. They need to adhere to the highest air safety requirements and make use of many different materials. One of these is carbon fibre, which has many valuable properties for the aerospace industry, but is challenging to recycle. Carbon fibre is a remarkably strong, yet light material that is used on the Boeing 787 Dreamliner and new 777X airplanes.

In December 2018, Boeing, together with ELG Carbon Fibre, announced a groundbreaking solution to recycle excess aerospace composite material for reuse in new products, such as automotive parts and electronic accessories. This solution recovers excess carbon fibre from eleven Boeing airplane manufacturing sites and is a first for the aerospace industry. It was initially tested on the Boeing 777X airplane wings, where excess material was placed into furnaces that evaporated resin holding the carbon fibre layers together, leaving behind a clean and reusable resource.

This process has already recycled 380,000 pounds of carbon fibre. Boeing and ELG Carbon Fibre have developed a successful method for recycling material in various aerospace manufacturing processes and created a market for recovered carbon fibre. This collaboration is anticipated to reduce solid waste from aircraft by more than half a million kilograms per year and will represent an innovative recycling method that eliminates composite scraps from being landfilled.



### Where?

US and global

Already today, **380,000** pounds of carbon fibre material has been recycled for reuse in new products.



## New investments in enhanced bottle recycling

The ambition is to **close the loop** on collection and recycling, giving all packaging a new life.



The Coca-Cola Company is taking steps to enhance and increase recycling. It is turning packaging, such as coloured plastic (PET) bottles which may be excluded from certain recycling streams, into recycled materials. The ambition is to close the loop on collection and recycling, giving hard-to-recycle packaging a new life.

The Coca-Cola Company has announced an agreement extending a loan to Ioniqa Technologies in the Netherlands, to facilitate the development of proprietary technology and produce high-grade, recycled PET content from hard-to-recycle PET waste. The aim is to accelerate the development and deployment of recycled PET in bottles. This has already produced a prototype sample bottle using 25% marine plastics in partnership with Indorama Ventures.

The Coca-Cola Company, as part of its global 'World Without Waste' vision, wants to focus on the entire packaging life cycle – from how bottles and cans are designed and made, to how they are recycled and repurposed. This comprehensive plan includes ambitious global goals to (1) create packaging made of at least 50% recycled material by 2030, while ensuring 100% of its packaging is recyclable by 2025; (2) to collect and recycle a bottle or can for every one the company sells by 2030; and (3) to partner with industry, governments and local communities to tackle packaging waste.



### Where?

The Netherlands and global

## The solar value loop

As solar photovoltaic (PV) demand continues to soar, PV recycling solutions are needed to ensure today's clean energy solutions do not pose a waste burden on future generations. High-value recycling helps increase the sustainability of PV by recovering energy intensive and valuable materials that can be reused in new panels and other products.

First Solar is committed to high-value recycling and responsible product life cycle management, establishing circular material flows for key components in its technology, starting with raw material sourcing through to end-of-life recycling. By-products of the zinc and copper mining industries are used to manufacture a leading eco-efficient PV technology, which can produce clean and affordable electricity for more than 25 years. First Solar integrates PV panel recycling into its product design in order to maximise material recovery for reuse at the end of a solar panel's useful life.

More than 90% of a First Solar panel can be recovered at end-of-life for reuse in new PV panels and glass products, such as glass containers, bottles, bathroom tiles and fibreglass insulation. The residual 5-10% of the recycled panel scrap not used as secondary raw materials is handled using other responsible waste treatment and disposal techniques. Since 2018, First Solar's routinely operated recycling facilities, such as its site in Germany, generate zero wastewater discharge.



**Where?**  
Germany

**More than 90%** of a panel can be recovered at end-of-life for reuse in new PV panels and glass products.



## Giving well-loved toys a new life

Hasbro together with TerraCycle® intends to **recycle toys and games** into raw materials that can be used for innovative uses.



Toys connect us, inspire us, comfort us and teach us. Everyone can recall a favourite toy or game that gave endless hours of joy and memories to last a lifetime. Toys tend to have a circular economy all of their own, and are often passed on from generation to generation, reused and sold second-hand.

However, when toys are no longer wanted, rigid safety requirements under the EU Toy Safety Directive make their multiple components difficult to separate and costly to recycle. Therefore, their high-quality and useful materials are lost to the economy.

To address this issue, Hasbro has partnered with TerraCycle® to launch a new, industry-leading toy and game recycling programme. Piloted first in the US, 2019 marks the programme's launch in France and Germany. It is open to all Hasbro toys and games, except for electronic products. Consumers interested in

participating can sign up online, collect and box up their Hasbro toys and games and ship them free of charge to be sorted and recycled into new products.

With industry experience in processing so-called 'non-recyclable' products, Hasbro together with TerraCycle® intends to recycle toys and games into raw materials that can be used in the construction of park benches, storage containers and for other innovative uses.

Hasbro's toy recycling programme is the first broad product recycling initiative in the toy sector, underlining the company's longstanding commitment to environmental sustainability and support for a circular economy.



### Where?

Brazil, Canada, France, Germany and the US

## Circular economy and IT

In 2018, there was an estimated 50 million tonnes of electronic waste worldwide. The continuous drive for digital innovation, alongside enhanced capabilities and efficiencies in terms of energy, leads to high IT-equipment renewals. As such, addressing e-waste, the scarcity of rare materials and legacy hardware pose complex issues for the entire IT sector.

Hewlett Packard Enterprise (HPE) has recognised this and promotes a circular economy approach by offering its customers the ability to return HPE and competitors' products to its Technology Renewal Centres (TRCs). This initiative foresees that HPE products are returned, given a new life or properly recycled. HPE Financial Services has the largest TRCs of any IT manufacturer affiliate and supports its customers in reducing material and energy consumption through extensive asset upcycling. At the heart of this initiative is a drive to extend a product's life by designing for repair, reuse and recyclability.

In 2018, four million units were returned to HPE's TRCs. 89% of these were given a new life and the remaining 11% were recycled, therefore unlocking the remaining value in customers' IT systems and advancing the transition towards a more circular economy. Adhering to the Design for Environment (DfE) principles, HPE products are designed to be easily repaired, upgraded, or reused in order to extend their useful life and minimise their contribution to electronic waste. Due to these efforts, HPE's product portfolio is at least 90% recyclable, with its Gen10 servers up to 99.8% recyclable and its Aruba access points 100% recyclable.



Where?

Scotland

In 2018, **four million** units were returned to HPE's Technology Renewal Centres. **89%** of these were given a new life and the remaining **11%** were recycled.

  
Hewlett Packard  
Enterprise



## Recycling on wheels

By closing material loops through reuse and recycling, manufacturing costs are reduced and the **production of waste is avoided**.

*Johnson & Johnson*

The production of Active Pharmaceutical Ingredients (APIs) is a material intensive activity, due to the volume of raw materials and chemicals used. In the past these were difficult to discard. However, plant on a truck from Johnson & Johnson can close material loops and recycle specific chemicals (eg, a catalyst) in order to maintain their value.

Plant on a Truck is a mobile innovative installation, limited to three containers, that treats liquid waste streams from the production of canagliflozin (API of Invokana™) in a cost-effective and environmentally sustainable way. The plant enables extraction of the catalyst zinc and recycles it at a partnering metallurgy company, while the rest of the wastewater is treated at the Janssen Supply Chain, a business unit of Johnson & Johnson water treatment plant in Geel, Belgium.



This installation is a result of open collaboration and innovation between several actors: Catalisti, a Belgian business incubator, a local university, a start-up company and a cross-functional team at the Janssen Supply Chain in Geel. By closing material loops through reuse and recycling, manufacturing costs are reduced and the production of waste is avoided. Indirect effects include reduced emissions of CO<sub>2</sub> and road transport. Further assessments of Plant on a Truck are looking at treating additional waste streams, such as waste layers remaining from the production of abiraterone (API of Zytiga®).



**Where?**

Belgium

## Circular steam project

The EU is committed to achieving significant reductions in greenhouse gas (GHG) emissions by 2030. To attain these goals, LyondellBasell, one of the world's largest producers of plastics and chemicals, developed an innovative technology to promote a sustainable and circular reduction of emissions in the chemical industry.

The Circular Steam Project incorporates an innovative technology into the existing production plant to convert its water-based waste into energy. LyondellBasell's new waste-to-energy process divides the waste into two streams. After being treated biologically, the first stream yields water and bio-gas. The second stream enters an innovative dry incineration process which keeps the salts separated and results in steam that is then used in the on-site production process. Reusing the energy for wastewater cleaning to generate steam reduces the dependency on steam currently only generated with fossil fuels.

By converting waste into energy, the new installation will take the existing production process to a higher level of efficiency and sustainability and lead to an overall annual reduction of 140,000 tonnes of CO<sub>2</sub> emissions, 0.9 petajoules of energy and avoid the release of 11 million kilograms of salt residue into the surface water. This is equivalent to avoiding the CO<sub>2</sub> emissions of 31,000 cars and conserving the energy of almost 90,000 households every year.

This technology can be adapted to other production processes and has enormous potential for developing the circular economy helping mitigate climate change.



### Where?

The Netherlands

This is equivalent to avoiding the CO<sub>2</sub> emissions of **31,000** cars and conserving the energy of almost **90,000** households every year.

lyondellbasell





## Leading on pet food recycling

Europe's first pet food recycling programme, offering free solutions to pet owners to **recycle packaging** and give it a second life.

**MARS**  
incorporated



Pet food packaging has been traditionally difficult to recycle due to its design for an increased product lifespan and remaining food residues. This, together with difficulties around the separation of waste, remains a critical issue that has meant recycling or reuse of pet food packaging has not been possible.

Mars and TerraCycle® have launched Europe's first pet food recycling programme, offering free solutions to pet owners to recycle packaging and give it a second life. In the UK, consumers can now return their packaging at designated public drop-off locations. Once collected, the packaging is sorted, cleaned and shredded. Food residues are also composted and the remaining material is turned into small plastic pellets. These can then be converted into a whole new range of useful plastic items, such as fence posts or construction applications.

The pet food recycling programme in the UK is key in achieving Mars' commitment to 100% recyclable packaging by 2025. Cooperation with industry partners is critical to achieving this goal. The use of high-quality packaging that extends a product's lifespan and is fully recyclable is essential for limiting harm to the environment.



### Where?

United Kingdom

# Services

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## Supporting food packaging that is designed for recyclability —

Pack Studios is an innovative network of experts at cutting-edge testing facilities that finds **solutions to modern challenges**.



Dow is working with partners in the value chain to design plastic packaging that is circular from its very inception. Modern food packaging is usually made of many different layers using a combination of materials. Each layer adds specific functionalities, such as stiffness, hermeticity (airtight) or food safety at different stages of the product's life. All of these factors are essential for modern packaging and their advantages for consumers, but it also means that recycling becomes more difficult.

Dow is addressing this issue through its Pack Studios, a collaborative platform for machine manufacturers, converters and consumer goods companies. Pack Studios and its partners in Italy, Spain and Switzerland have been developing an innovative form of polyethylene (PE) resins for flexible and recyclable packaging. The key is to use film layers that are entirely made of recyclable polyethylene, while at the same time ensuring similar functionalities as traditional packaging structures.

Pack Studios is an innovative network of experts at cutting-edge testing facilities that finds solutions to modern challenges. Every year it amasses more than 600 business engagements worldwide in order to make the circular economy in plastics packaging a reality.



### Where?

Italy, Spain and Switzerland

## Smart water management

The disconnect between market price and water scarcity makes it difficult for businesses to understand the full value of water for their operations. This also makes it challenging to consider water-related risks in business planning. This is evidenced by only two-thirds of European companies identifying water as a substantive business risk.

Nalco Water, an Ecolab company, has partnered with Microsoft to create a financial modelling tool, the Water Risk Monetizer. This free online tool provides a risk-adjusted price for incoming and outgoing water at a facility, enabling businesses to factor current and future water risks into growth, while ensuring the continued availability of this crucial resource. The tool also helps quantify the economic impacts of water availability and quality, while supporting decision-making on water consumption. Understanding the full value of water is an

effective starting point for establishing a link between effective water management and its potential for the circular economy.

Using reused or recycled water provides in excess of 20% overall water savings with reductions as high as 80% when used instead of a freshwater potable supply in water-intensive systems. Microsoft has used the tool in its data centre in San Antonio, Texas to reduce their overall operating costs and water usage. This has saved over \$140,000 in water costs and reduced water consumption by 220.7 million litres of potable water per year. This demonstrates the value of holistic approaches to water saving strategies that reduce consumption and reuse key resources.



### Where?

EU, US and global

Using reused or recycled water provides in excess of **20% overall water savings** with reductions as high as 80% also possible.



Example from Nalco Water



## Changing printing from a product to a service

Instant Ink not only reduces the carbon footprint of ink cartridge purchases and disposal by **84%**, but also reduces energy use by **86%** and water use by **89%**.



HP Instant Ink shows how innovation in product delivery improves environmental performance and contributes to the circular economy. With the products' use and later disposal in mind, HP Inc. aims to introduce an innovative approach that reduces energy and waste by turning products into a service.

Instant Ink is a web-based subscription service that ensures that consumers and businesses do not run out of ink. Based on flexible monthly service plans that take into consideration the number of printed pages, customers are sent new ink when existing supplies are running low. The divergence in the reliability and quality of postal services in each country however remains an issue.

By offering a service that ensures printer cartridges are circular, this service decreases the environmental impact of printing. Based on ISO standard and peer-reviewed lifecycle-analysis, Instant Ink not only reduces the carbon footprint of ink cartridge purchases and disposal by 84%, but also reduces energy use by 86% and water use by 89%. Through the return of empty cartridges in prepaid envelopes, HP Inc. is also able to close the product loop and reduce material consumption by 57% per printed page. This service significantly contributes to the circular economy in the EU, while increasing convenience and decreasing costs for consumers.



### Where?

18 countries globally (16 in the EU)

## Closing the Loop on packaging waste

The disposal of single-use plastics and the reduction of waste has been a major environmental challenge for policy-makers, industry and consumers. 40% of plastic packaging is often used just once. To address this challenge, TerraCycle®, a global recycling leader, convened a coalition of consumer-packaged goods and delivery companies, the Coca-Cola Company, Mars Petcare and UPS, to address waste and eliminate the need for single-use packaging.

Announced at the World Economic Forum in January 2019, Loop is the first fully circular shopping platform that offers everyday products from major brands in reusable and returnable packaging. Products are delivered in a durable reusable tote which has been tested by packaging experts at UPS's Package Design and Test Lab. Once empty, packaging is picked up, cleaned and refilled in a breakthrough zero-waste delivery system. Loop, leveraging all of its brand partners' expertise, is

making shopping easy, convenient and plastic-free for consumers.

Loop cleans and sanitises empty containers and prepares them for reuse, instead of the traditional product packaging which ends up as waste. Through a reimagining of shopping, where single-use disposable packaging gives way to durable and feature-packed designs, Loop and its partner brands are changing the waste equation. Loop is currently being piloted in the mid-Atlantic US and Paris, France, with plans to expand to other European and US cities in 2020.



### Where?

Europe and global

Loop is the first fully circular shopping platform that offers everyday products from major brands in **reusable and returnable packaging**.



# Recommendations

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## Recommendations

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Since the introduction of the Circular Economy Action Plan in 2015, the EU has taken significant steps to reduce waste and improve the sustainability of products. The 15 innovative practices in this brochure demonstrate that business has a key role to play in building Europe's circular economy. While considerable efforts have already been made, more can be done to ensure that it benefits everyone, from businesses and consumers to the surrounding environment.

For a successful circular economy in the EU, policy-makers need to:

- ★ **Encourage cooperation between governments, industry and civil society to achieve circularity in products and services at every stage of their lifecycle.** No actor can solve today's environmental challenges alone, therefore a clear and consistent regulatory framework is needed to support collaboration across all levels of the value chain;
- ★ **Support innovative approaches for an efficient and responsible use of resources.** To grow the circular economy, promising and innovative solutions that can protect finite resources and encourage recycling practices need to be funded;
- ★ **Support models and practices that expand the useful life of products:**
  - **Encourage remanufactured goods that are made to last**, remaining viable for 'multiple lives' continuing to deliver performance. Too often such goods are constrained by regulations adopted decades ago with a linear approach in mind;
  - **Apply life cycle thinking when assessing circular economy options**, to ensure the best environmental outcome;
  - **Leverage the potential of professional reuse, repair and refurbishment**, so that circular products maintain their quality and safety;
  - **Facilitate the circular economy for used components, parts and products**, allowing the cross-border movement of these goods to professional repair facilities;
- ★ **Promote regulatory action that ensures large-scale availability of economically competitive secondary raw materials, for the relevant waste streams, enabled by intra-EU waste shipments.** Incentivising market supply and demand for recycled waste materials or the harmonisation of end-of-waste definitions will encourage the use of secondary raw materials in consumer products;



- ★ **Ensure legislation for a circular economy**, instilling a sector-specific approach that takes into consideration different specifications and customer product needs will allow the European market to remain competitive;
  - **Support the modernisation and economic development of waste collection**, using common standards and technology for identification to enhance the sorting of materials;
  - **Make waste management a valuable business case for all stakeholders**, if waste collection, separation and repurposing is not economically viable, then the circular economy cannot happen;
  - **Improve waste infrastructure and collection of waste** (eg, through funding);
- ★ **Promote educational consumer campaigns;**
- ★ **Consider the environmental performance of manufacturing processes and products in public procurement decisions.** National and EU-level Green Public Procurement (GPP) practices possess enormous potential to incentivise innovation and environmentally friendly purchasing; and
- ★ **Provide market surveillance and law enforcement authorities with sufficient capabilities to enforce product regulations and environmental standards**, to prevent non-compliant products and companies entering the EU market.

Game-changing and environmentally progressive ideas cannot stand alone. Best management practices need to accompany the development of efficient recycling systems to pave the way for future innovations. A successful transition to a fully circular economy in the EU will not only foster environmentally friendly practices, but also boost growth and jobs through novel business models.

The examples featured in this brochure demonstrate the commitment from companies to protect the planet. The more we push for a regulatory environment in which these sorts of products, processes and services are possible, the greater chance we have of securing a circular economy not only in Europe, but also across the Atlantic and around the globe.



# AmCham EU speaks for

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American companies **committed to Europe** on trade, investment and competitiveness issues. It aims to ensure a **growth-orientated business** and **investment climate** in Europe. AmCham EU facilitates the **resolution of transatlantic issues** that impact business and plays a role in creating **better understanding** of EU and US positions on business matters. Aggregate US investment in Europe totalled more than **€2 trillion in 2018**, directly supports more than **4.8 million jobs** in Europe, and **generates billions of euros** annually in income, trade and research and development.

[amchameu.eu](http://amchameu.eu)





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