Pledging campaign for the uptake of recycled plastics into products

Introduction

Few materials have so profoundly transformed the way we use, design and manufacture the products that define our everyday lives as plastics.

Their durability, high strength-to-weight ratio and relatively low costs compared to alternative materials has, over the course of the 20th century, made plastic an integral part of virtually every industry. As the global demand for plastics increases, so does the amount of plastic waste that is created.

Out of the 25.8 million tonnes of European post-consumer waste plastics that were collected through official channels in 2014, 29.7% was recycled. The remaining waste was either incinerated for energy recovery (39.5%) or landfilled (30.8%) (Plastics Europe, 2016).

According to these data, 80% of post-consumer plastics waste that was recycled in 2014 came from packaging applications, which reached a recycling rate of 39.5%. Packaging, however, represents only about 40% of the EU28+NO/CH1 annual plastics demand (Plastics Europe, 2016), illustrating the significant untapped potential of recycling of non-packaging plastic products and components.

Lexmark develops products to transform the way our customers consume goods. Lexmark actively participates in the circular economy by designing products that stay in use longer, incorporate recycled materials, protect natural resources and reduce waste.

Lexmark chooses to offset a portion of our virgin polymer purchases by boldly pursuing recycled options and reuse of parts. Our use of recycled materials ensures that waste formerly destined for landfill has a new destination and purpose, helping protect natural resources and fulfill our sustainability goals. Currently, we favor the use of postconsumer recycled (PCR) materials over the use of bio-based materials for durability and recyclability.

Lexmark is now a clear leader in the Imaging Equipment industry: from 2012 to 2017, we have increased the use of post-consumer recycled (PCR) plastic to 17% in our branded, A4 printers and 18% in our cartridges.

Lexmark’s commitment to materials preservation started 25 years ago. R&D teams worked closely with Lexmark engineers to reclaim PCR plastic from cartridges and return the material to near virgin quality
for use in printer components. Our long-standing support for the circular economy and remanufacturing initiatives is evident in Lexmark’s founding membership in the European Remanufacturing Council (CER). Lexmark is also a member of the Ellen MacArthur Foundation, working with other stakeholders to rethink, educate and redesign our products in the framework of a circular economy. This commitment is recognized by prominent supporters of sustainable manufacturing. The European Commission’s report on “The case of reusability of printer cartridges” concludes that “Lexmark appears to be the clear market leader in printer cartridge reuse, presenting a comprehensive set of re-use statistics.”

1- Achievements

Our products are designed and optimized for a cycle of disassembly and reuse. Lexmark develops processes to divert reclaimed materials from waste streams and cycle them back into new products. Our processes provide the opportunity to reduce waste through the reuse of toner, cartridge components and materials.

In cartridge recycling our customers return used product via our Lexmark Cartridge Collection Program (LCCP). They are disassembled to be in priority, reused or remanufactured. If these are no longer an option, the cartridge is sent to be recycled with 97% material recovery rate. Our facilities can remove the plastic, grind it, and then integrate the PCR plastics into new parts. In 2017, 2,829 metric tons of plastic was collected from used cartridges: detailed procedures and controls are in place to ensure we produce a safe and high-quality PCR plastic. Our 100 percent PCR plastic resin achieved certification from the Underwriters Laboratory for use in Lexmark cartridges. We incorporate PCR materials containing up to 100 percent closed-loop PCR into many components of the cartridges. By locating all steps of this process at the same facility Lexmark has reduced the impact on the environment by increasing our resource efficiency and eliminating the need for fuel to transport the parts. Creating new processes to reuse supplies in an efficient manner is integral to every new product Lexmark designs. In completion of the process all Lexmark cartridges are tested and certified to the highest quality standards.

In our printer systems, Lexmark engineers design our products to use recycled resins, validating that quality and performance remain high, but also gaining the environmental benefits of being part of the circular economy. Our printer models contain up to 53% recycled plastic content, and 91% of our Lexmark branded printers have significant PCR content. The majority of this PCR content comes from recycled WEEE.

2- Milestones (e.g. intermediary pledges) that we intend to reach before 2025

- For Lexmark’s in House and branded Lexmark printers, we set the goal to reach an average of 20% PCR weight of our total plastic usage by 2020.

- For Lexmark cartridges, our goal is to reach 25% PCR content by 2020.

We’re are progressing well to achieve both of these goals and re-establish new ones for 2025.

Regarding product reuse, we clearly favor waste prevention and remanufacturing within the waste pyramid hierarchy.
• By 2025, we aim at reusing 50% of the collected cartridges worldwide.

Longer term, we would like to incorporate closed-loop recycled materials from our hardware recycling streams into new devices in much the same way we are doing for cartridges.

For PCR that we cannot source through LCCP, our Lexmark engineers source high quality third party recycled plastic resins. Lexmark prefers to use PCR materials originating from electronics waste. Many of Lexmark suppliers certify their base resins are recovered from 100% post-consumer recycled electronics. Our use of PCR sourced from used electronics provides incentive to electronics manufacturers and recyclers to continue to grow the circular economy in this industry.

3- Possible bottlenecks that we might go through while fulfilling our pledge

The greatest cost aspect - in both financial and environmental terms - of recovering a product’s materials is often its return journey from the customer to a recycling & remanufacturing facility. Since the collection of end-of-life products is widely dispersed and small in scale, sourcing sufficient and stable volumes of waste plastics to make closed loop recycling of electronic devices practically and economically feasible is challenging.

Complex regulations concerning international shipping of waste also pose a number of challenges to the reverse logistics of end-of-life plastics. Acquiring the necessary paperwork can cause delays that can jeopardise production timelines. If concerned waste is suddenly considered as a dangerous waste, then the concern is suddenly multiplied and put at risk the whole system. Recent feed stream restrictions have altered costs and availability.

The economic feasibility of using recycled plastics depends on their cost advantage over virgin alternatives. Price volatility of recycled resin can create fears that its price will rise much above virgin resin and put at threat the investments made previously.

Another challenge is controlling for contaminants in the waste stream. While regulations limiting the use of additives such as flame retardants have become more stringent over the years, older products in which halogens - such as bromine - were widely used in years past and are still being retrieved in recycling. Thus, many third-party suppliers struggle to produce material compliant with current regulations. Removing these contaminates during the recycling process is challenging and costly. Should the legislation change on contaminants prohibited for the manufacturing of new products, it could also put at risk the use of some post-consumer feed streams for recycling.

4- Conditions that we would need to be met (e.g. by other stakeholders, or the EU, or the national and local authorities, etc...) in order to be able to fulfill our pledge

Among brands that are introducing recycled plastics in their products, the estimated average percentage of recycled plastics used (by total weight) varies from very low single digit percentages up to 30 percent.

Imaging Equipment Industry: Of the 1832 imaging equipment models registered in the EPEAT database (US registrations) 12% contain a minimum of 5% to 10% postconsumer recycled plastic, with a further 1.4% of the products containing at least 25% postconsumer recycled plastic. Postconsumer recycled plastic is still not used enough in the Imaging Equipment industry.
Better access to recycled materials – creation of a market for secondary materials
- Investment in waste collection and recycling capacities (national authorities)
- Modernisation of treatment facilities (national authorities, private sector)
- Higher waste collection/recycling targets (EU)
- Revise Waste Shipment Regulation to make it fit for the Circular Economy – allow for easier shipment of waste across Europe (EU)

Ensure secondary materials are of comparable and consistent quality
- Introduce European Standards for secondary raw materials (EU)

The use of secondary materials must be economically viable
- Products that contain secondary materials should be incentivised (through modulated VAT or Public Procurement) (EU and national authorities)
- Only products that contain postconsumer recycled plastic should be viable for Public Procurement
- Price of secondary materials should be equal or lower to comparable virgin materials (national authorities)
- Favour reuse and recycling of products over landfilling and incineration (national authorities)
- Create a level playing field inside an industry sector

Information/Transparency
- Requirement for producers of virgin materials to disclose all substances to allow for quality recycling (EU)
- Phase-out of harmful substances from virgin plastic that do not allow for recycling (private sector, EU)
- Requirement for producers to disclose their percentage of postconsumer recycled plastic per product

Research
- Provide research funding for producers of plastics, recyclers, and for the substitution of virgin materials through Horizon2020 and new research funding programme [HorizonEurope (EU)]
- Foster industry dialogue across the value chain (EU)

5- Contact person or email for any possible follow-up
- John Gagel - Senior Manager Global Corporate Sustainability
  email: john.gagel@lexmark.com
- Sylvie Thomas – EMEA Head of CSR
  email: sylvie.thomas@lexmark.com
- Maxime Furkel – EMEA Head of Government Affairs
  Email: maxime.furkel@lexmark.com