

STEEL: DRIVING SUSTAINABILITY

Alexander Mohr, secretary general of APEAL, the Association of European Producers of Steel for Packaging, discusses the demands for a new Circular Economy Package and the status of steel for packaging as the exemplary material in a circular economy

The pressure is mounting in Europe as momentum behind the campaign for an aspirational Circular Economy Package gathers speed.

Over the summer months the European Commission conducted a public consultation in view of tabling a new Circular Economy Package proposal by the end of the year. This new proposal will look not only at end-of-life but also at product policy and eco-design, in order to make “a more ambitious” proposal. At the same time the European Parliament voted at the beginning of July on a so-called “own initiative” report on resource efficiency, which tackles questions on circular economy such as legally binding targets for waste and packaging and which will serve as the basis for negotiations in the upcoming discussions with the European Commission.

We at Apeal have always advocated the higher recycling targets set within the Packaging and Packaging Waste Directive (PPWD), one of the six bills contained within the Circular Economy Package. The PPWD has encouraged continuous improvement in recycling rates since its introduction and we are encouraged to see that MEPs appear very much in favour of carrying this trend forward by setting even more ambitious targets in the push towards a circular economy.

STEEL, THE PERFECT MATERIAL FOR A CIRCULAR ECONOMY

Apeal is confident that our industry is well placed to meet any requirements for higher recycling – steel packaging is a perfect example for a circular economy and provides a model which should be emulated by other materials.

The European Environment Agency (EAA) used steel as the example of resource efficiency in its



synthesis report, “*The European environment — state and outlook 2015*” (SOER 2015), published earlier this year.

The report evaluates the state and prospects for Europe in a global context, looks at European environmental policy implementation between 2015 and 2020 and analyses opportunities to recalibrate policies and knowledge in line with the 2050 vision of living well within the limits of the planet.

The report reaffirmed the notion of the waste-free circular economy as central to boosting resource efficiency, and at the same time used steel as an example of how recycling materials can help



A material is defined as permanent if its inherent properties do not change during use and through solid-liquid transformation, it can revert to its initial state. This is the case when the material consists of basic components, which are either chemical elements or robust chemical compounds making repeated use and recycling possible without change of inherent material properties

Europe meet a substantial proportion of its raw material demand.

Our industry has set an internal objective to reach 80 per cent steel recycling by 2020 and zero steel packaging sent to landfill, these are ambitious targets that will no doubt match or even exceed those set by the new package.

Whatever the steps taken by the EU Commission it must ensure that long-term sustainability policies that benefit and drive improvements for all packaging materials are at the heart of its decisions.

OUR AMBITION IS TO DRIVE GREATER SUSTAINABILITY

Promisingly for the steel packaging sector, this year has seen Apeal make a string of announcements that not only indicates our industry's continuing success when it comes to sustainability, but also our ambition to drive improvement in the future. Earlier this year we confirmed 2013 as the best year ever for steel packaging recycling across Europe – a historic high of 75 per cent was achieved, one percentage point up from the previous year.

The result confirmed steel's status as the most recycled packaging material in Europe and comes at a time when the recycling rates of other materials appear to have stagnated.

The impact on sustainability of driving up recycling rates is significant – a tonne of recycled steel saves over one and a half times its weight in CO₂ emissions, over twice its weight in raw materials and uses 70 per cent less energy than producing steel from virgin sources. Indeed the true impact of recycling can be demonstrated when a material or product is analysed within a life cycle perspective.

Thinking in life-cycles has an important advantage, as the whole lifespan of a product can be evaluated – production, use and disposal at the end of life. Environmental impacts occur along the entire supply chain, at the production site itself as well as in the extraction of raw materials and their transport, and at power plants supplying the energy to the production site. Capturing both direct and indirect impacts can help to avoid shifting environmental burden from one life cycle stage to another. Environmental regulations which only regulate one phase (use) of a product's life cycle can create unintended consequences such as increased CO₂ emissions.

TRANSPARENT LIFE CYCLE DATA IS AVAILABLE FOR TINPLATE

Apeal's latest Life Cycle Inventory (LCI) dataset for tinplate, using data from 2012-13, creates a clear and universally understandable record of the complete environmental profile of tinplate

over its entire life cycle. The latest figures indicate continuous improvements in a range of areas including a reduction of 12 per cent in CO₂ emissions and two per cent energy usage since 2006.

However, when the recycling rate for steel packaging (74 per cent in 2012 at the time of the study) is taken into account emissions drop by 46 per cent and primary energy demand by over 30 per cent. If a theoretical recycling rate of 100 per cent is used, the CO₂ emissions decrease by more than 60 per cent. This calculation is more than just theory; the top five recyclers in Europe already recycle an average of 90 per cent.

The boundaries of the study can be further extended past the steel factory gate to include downstream activities, particularly in collaboration with customers who are applying LCAs to their own product systems, and the use phase of their product. Publishing the dataset ensures steel's environmental profile is communicated in a totally transparent way and further improves the understanding of the environmental credentials of steel for packaging among key stakeholders.

As the Commission plans the replacement for the Circular Economy Package, this steel success story should be at the front of their minds and be offered up as an exemplary material.

STEEL, THE REFERENCE FOR CLOSING THE MATERIAL LOOP

The industry does have a few natural advantages however as steel has a unique blend of inherent properties that have been taken advantage of to the fullest extent. Infinite recyclability without loss of quality combined with ease and economy of separation from waste streams thanks to its magnetic nature make the material naturally superior to competing packaging materials.

It is also the case that every steel manufacturing plant across Europe is also a recycling facility as steel scrap is an inherent part of the production process for new steel. The result is that there is no need to invest in specific recycling plants or extra logistics, steel can be easily separated from waste streams and transported to local tinplate plants. The overall impact is a further reduction in CO₂ emissions and energy usage, which all adds to steel's sustainability credentials, as well as a simple and efficient recycling process.

The key to closing the material loop is here. Steel is never consumed but continuously transformed through recycling processes that do not degrade its inherent properties. As a result it perfectly fits the concept of permanent

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material, which is at the basis of a circular economy and goes beyond the current overly simplistic separation between 'renewable' and 'non-renewable' resources.

PUSHING HIGHER RECYCLING RATES ACROSS EUROPE

Our role at Apeal is to engage with stakeholders to ensure we thoroughly communicate the steel story throughout the entire packaging, food and beverage supply chains as well as those involved in the recycling sector. While the recycling rate across Europe continues on its upward trend, there are still significant opportunities to raise awareness of the importance of recycling and the challenge of reaching our objective of 80 per cent steel recycling by 2020. There is a certain level of dynamism in Central and Eastern Europe who are key consumers of steel and where we also see a clear, growing trend in environmental concerns and the need to save resources.

In order to foster understanding of the benefits of recycling and encourage legislators and key industry players in the region to focus on increasing recycling rates, Apeal will be hosting a second steel packaging summit specifically oriented to the needs of Central Europe later this year.

"Steel Packaging – Green Solutions for Central Europe 2015" will be held in Warsaw on 8 October 2015. It will be an opportunity for policy makers, value chain partners and steel producers to present strategies, exchange ideas and communicate a vision for the future of steel as a sustainable packaging solution in a circular economic system in Europe. Rekopol Recovery Organisation SA will partner the event and a tour of the ArcelorMittal Warszawa site after the conference will allow participants to experience first-hand how steel is recycled, integrating the manufacturing process and reducing raw material use, energy use and emissions.

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