



**State of play:
Cluster Sustainable chemistry
and plastics in a continuous
cycle - October 2015**



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1 SUSTAINABLE CHEMISTRY AND PLASTICS IN A CONTINUOUS CYCLE

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INTRODUCTION

Chemical processes that consume less raw materials. Biomass as 'green' raw material for chemicals. The closure of plastics cycles with adapted product design. Better separated collection of waste. A stronger sales market for recycled items. Sufficient ambition within the Flemish Materials Programme.

AMBITIONS AND REALISATIONS

In 2015-2016 work is taking place on 5 actions:

- Identifying and trying to eliminate legal barriers to closing the plastics cycles
- Encouraging the recycling of fibre-reinforced thermal hardeners
- Encouraging collaboration and the exchange of expertise between designers, producers and recyclers of plastics
- Better charting of and communication about ongoing initiatives with plastics in Flanders and Belgium.
- Developing and promoting an international quality label for recycled plastics

We will discuss these 5 themes and the corresponding action points below.

1.1 ELIMINATING LEGAL BARRIERS TO CLOSING THE PLASTICS CYCLES

We are evaluating various options in order to come up with a workable interpretation of REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) for plastic recycling. SuMMa has inventoried the obstacles of REACH legislation for the recycling of plastics in detail. Possible solution options could be:

- defining final applications without exposing man and the environment, whereby SVHC's (Substances of Very High Concern) are permitted;
- granulation and processing at one location;
- material passports.

Essencia would like to work towards a possible code of conduct with regard to REACH and plastics recycling.

1.2 ENCOURAGING THE RECYCLING OF FIBRE-REINFORCED THERMAL HARDENERS

Fibre-reinforced composites are gaining in popularity. They are used in vehicles, construction and to encase machinery, among other things. Their big advantage is that they are lightweight and also provide fuel savings.

When it comes to fibre-reinforced thermal hardeners, there are currently very few quality processing options for the end-of-life stage. Expensive materials such as Kevlar are recycled. However, glass-fibres are cheap and it is not (yet) economic feasible to recycle them.

Can we, in Flanders, invest in the reuse and recycling of thermal hardeners? Our knowledge is currently insufficient: what is the available knowledge on the recuperation of thermal hardeners? What are the current and future available volumes? What are the processing costs? What possible sales markets are there for recycled elements? And how do our neighbouring countries tackle this issue? There is a clear need for an estimation of potential, and market research. The research consortium which includes VITO, VKC-Centexbel and Sirris is examining potential and the market situation. The research will be delivered in May 2016. Recommendations will be formulated on the basis of the results.

1.3 ENCOURAGING COLLABORATION AND THE EXCHANGE OF EXPERTISE BETWEEN DESIGNERS, PRODUCERS AND RECYCLERS OF PLASTICS

Designers, producers, processors and collectors within the value chain of plastic products are not always aware of one another's needs. When products are being developed, insufficient consideration is given to recovery, reuse and recycling. We make our contribution by organising opportunities to exchange expertise.

The Flemish Materials Programme organised a workshop on Sustainable Design in the plastics sector on 5 February 2015. The exchange of information between participants across the entire value chain, interesting practical examples and a visit to Tupperware provided those taking part, as well as the organisers, with plenty of inspiration.

A great deal of work also took place on the exchange of residual flows between companies. In practice, this concerns two projects: Symbiose and CORE.

Symbiose is creating a match-making service platform for the valorisation of industrial waste and side-flows, and their valorisation technologies. Around 235 organisations are creating economic added value of 85,000 EUR via this platform. Post-consumer silicone tubes, for example, are being collected and recycled. The separation of layered/combined plastics (in 12 organisations, accounting for 3,100 tons/year) is a great example of this.

Symbiose is an initiative of FEBEM, OVAM, FISCH, and VITO. Symbiose is currently looking at its future and working on a restart. CORE (see later) could also form part of this.

CORE is a project from FEBEM, Federplast, VKC and Centexbel and forms a bridge between the plastics processing sector and the textile industry. It would like to encourage the use of recycled

plastics in textiles and of recycled synthetic textile waste in plastics processing. Waste from one sector thus becomes a valuable raw material for another.

The CORE project has officially come to an end but the informal structure remains. FEBEM takes the initiative to unite members once a quarter. CORE will eventually also be expanded to other regions. FEBEM will create the connections for this with BIM (Brussels Institute for Environmental Management) and OWD (Office wallon des déchets). FEBEM and FEDERPLAST have also contacted VLEVA in order to discuss collaboration on a European level.

1.4 Better charting of and communication about ongoing initiatives with plastics in Flanders and Belgium

Work with regard to plastics is taking place on several fronts. The FMP lever for chemicals/plastics is a consultation within which information is exchanged. Every quarter, Essenscia invites VKC-Centexbel, Centexbel, FISCH, Federplast, FEBEM and OVAM to attend a lever meeting. Here, the initiatives from the government and the sector are covered and the various actors are provided with a clear overview of the activities around plastics.

1.5 DEVELOPING AND PROMOTING AN INTERNATIONAL QUALITY LABEL FOR RECYCLED PLASTICS

All too often, manufacturers are still reluctant to use recyclates in their production. As a result of this, we are striving for quality improvements but this is not enough. A quality guarantee, possibly with a quality label, must engender confidence.

A quality label must also be anchored at the federal and European level, as effectively as possible, and must correspond to European design End-of-Waste criteria. These serve as the basis but checks must also take place on whether these criteria, which primarily cover origin and composition, offer the required quality guarantee. If necessary, we will implement a quality label for recyclates.

The FPS Environment is currently conducting a study (until May 2016) about setting up a legal framework for certifying and defining 'recycled content', whereby the Flemish QA-CER and the European EuCertPlast will be evaluated. Not in order to create legal objectives, but to establish a calculation methodology. This would then be used in the government's sustainable purchasing policy.

OVAM will also conduct market research in 2016 into potential sales markets for recycled plastics and high quality applications. To conclude this study, we would like to elaborate a concrete case within which we take a structured approach to seeking out recycle that is suitable for a selected product, and investigate the extent to which this can be used for the product.