

RE REPORT

Product stewardship made visible

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Rainer Mantel, Managing Director of the BKV, makes it clear in a discussion what it is that makes the BKV stand out: It not only brings together the interests of different parties, it also carries out projects on current issues for the entire plastics value chain. For this, it can call on a broad network of stakeholders. The results are made available to everyone interested, without discrimination.

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The present composition of the BKV's controlling body.

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“BATTLE OF EXPERTISES”

Dr. Klaus Wittstock is spokesman for the Technical Committee that advises the BKV on technical matters, evaluates the project results, and monitors adherence to the project targets. In an interview, he explains how the committee works and what is special about it. He also shows how the main issues have changed over the course of the years and describes the challenges facing the plastics industry at the present time.

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“CIRCULAR ECONOMY IS THE MODEL OF THE FUTURE”

That is certainly the conviction of Dr. Gottfried Jung. The head of the Climate Protection, Environmental Technology and Circular Economy department in the Ministry of Environment of the State of Rhineland-Palatinate, is spokesman for BKV's Political Committee. For many years, he has been committed to paving the way for circular economy. In a discussion, Jung explains where we currently stand in matters of circular economy and how, in his opinion, things should move further forward.

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ACCEPTING PRODUCT STEWARDSHIP

To live up to its product responsibility, the plastics industry uses the BKV as a competence centre for matters to do with plastics recycling and resource efficiency. Not only does the BKV provide its shareholders, the plastics industry, with the compiled results and findings, anyone interested can also obtain an overview of the available reports on the website.

LEGAL FRAMEWORK

As regards the legal framework, the so-called "Wertstoffgesetz" is certainly the most discussed legal project of the last few months. Its progress is of major importance for the plastics and recycling industry. Gunda Rachut, the managing director of a project enterprise for setting up a so-called "Zentrales Wertstoffregister" (central register within the planned German law on resources), illustrates that the plastics industry is well-prepared. Apart from that, however, the latest amendment to the regulation on commercial waste and the reforms connected with the EU circular economy package are of no less relevance. Ulrich Schlotter, Project director at the BKV, explains where the plastics industry should focus its main attention.

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VIA THE RIVERS

The subject here is marine litter: The world's seas contain a considerable amount of superfluous waste which, as in the case of the North Sea, arrives there primarily via the rivers. This was the result of the first trial run of a new model for documenting so-called "land-sourced litter". The model was developed on behalf of the BKV in cooperation with the plastics industry associations in Germany and Austria. The Project manager, Stephanie Cieplik, talks about how it is being received among the relevant players and what will happen next.

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DATA BASIS

The main focus here is on market data: The next edition of the "Consultic Study" on the production, processing and recovery of plastics in Germany is due to be published in autumn 2016. The section with statistics on which industry segments make most use of recycle is relatively new.

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BKV

BRIEF PORTRAIT

PRODUCT STEWARDSHIP

The BKV is a visible part of the plastics industry's product stewardship. The BKV shareholders are companies involved in plastics production, plastics processing and plastics machinery manufacture, together with their associations and federations.

PLASTICS – CONCEPTS – RECOVERY

The BKV is occupied with topics concerned with the resource efficiency of plastics and the recycling of plastic waste. For this, it develops suitable concepts and strategies, creates market transparency and compiles holistic evaluations of technical solutions. The BKV provides companies and associations of the plastics industry with data and facts to help them take corporate decisions, and also funds arguments in political discussion.

Welcoming words from the Board Chairman, Matthias Stechhan

UNIQUE IN EUROPE



Matthias Stechhan has been Chairman of the Board – the controlling body of the BKV – since April 2015. The Sales Director at LyondellBasell for polyolefins in Central Europe said in his welcoming speech that he was very impressed by the concerted work of the BKV.

When I was offered the position of Chairman of the BKV Board in spring 2015, I was delighted to accept, even though at that time I was not yet entirely clear what I was entering into. Today, after a good year in the position, I can tell you that I am highly impressed by the concerted and effective work done by the BKV and its various bodies, and by the constructive cooperation of colleagues along the entire value chain. A trusting cooperation such as this between plastics producers, plastics processors, plastics recyclers and plastics machinery manufacturers is absolutely unique in Europe.

In the BKV, a very effective working structure has taken shape in the last two years. In the now ten-person Board, generally supplemented by three permanent guests, we regularly debate the current focus of the project work and tackle basic questions about the financial and structural framework. The Technical Committee of the BKV, made up of proven experts from companies and associations in the plastics industry, meets regularly for intensive discussion on the content and direction of the projects. A great deal of technical expertise comes together there to the benefit of the entire plastics industry. Not least, the dedicated staff at the BKV ensure an efficient and widely recognised realisation of the resolved projects. The results speak for themselves. The BKV enjoys an outstanding reputation as a supplier of reliable data and facts. The associations and companies can rely on these statistics in their communications and political work. The BKV thus makes a valuable visible contribution to product stewardship, to which we also subscribe as an industry. And this is also clearly perceived by external players thanks to the dedicated commitment of everyone involved. I would like to offer you all my sincere thanks and appreciation on behalf of the Committee.

A NETWORK FOR EVERYONE

Interview with Managing Director Rainer Mantel

Mr Mantel, it is said that the BKV makes the plastics industry's product stewardship visible. How does it do that?

In the BKV, the entire value chain is represented. Associations and individual companies in the plastics-producing and plastics-processing industry and also in the plastics machinery segment are our shareholders. For them, we assume the task of compiling fundamental information on topics to do with the perception of product stewardship, information which they in turn use for their communications and political work. In this respect, the BKV helps them fundamentally to make their product stewardship visible. For this, it can fall back on a well-functioning expert network that has grown to what it is now over many years, and consists of many areas of science, administration and industry through to NGOs. The BKV is thus a contact partner not only for its shareholders, but also for external institutions and companies.

Where do you see the biggest successes in the last reporting period?

To begin with, we completed BKV's strategic realignment in 2015 and successfully implemented the new business model. In so doing, the structures were put in place to enable us to serve as a competence centre for our stakeholders and everyone involved in such matters for questions of resource efficiency – with the focus on plastics recycling. As far as the project work is concerned, I would like to mention first of all the model for documenting land-sourced litter discharged into the sea. The methodology developed on our behalf offers a systematic basis for obtaining a better understanding of which routes are taken by plastics to end up in the sea. This knowledge will, in turn, help to find ways and means for the more effective avoidance of such discharges. Another important topic is the collection of useful materials. In connection with Germany's "Wertstoffgesetz",

BKV's Managing Director Rainer Mantel talks clearly about what the BKV does and what benefits it has, not only for its shareholders. For him, the wide network of experts along the entire value chain is particularly important – a network that the BKV can make full use of in its project work.



we have also been involved in initiating, for the plastics industry, the setting-up of the central department mentioned in this act. On the one hand, we put forward the advance payment to which the plastics industry has committed itself, and on the other, we are working on the shape of this central department as a member of several working groups. These are only two examples from a number of projects we have dealt with. And the list of topics is much longer than we can manage with the given capacity.

What are the main challenges currently being tackled by the BKV in its project work?

The project related to the central department specified in the "Wertstoffgesetz" is still one of the main areas of focus. In addition to our participation in the working groups for "same-material products" and "recyclable design", we are also occupied with the question of mechanical recyclability in the meaning of paragraph 21 of the planned "Wertstoffgesetz", which aims to encourage recycling. On the question of what potential plastic materials have in this respect, we want to try to clarify the

situation as part of a study. The marine litter project also remains one of the big challenges for us to deal with. An initial version of the previously mentioned model for identifying the discharge pathways and quantifying the volumes involved is now available, but we

now have to fill it with life. This means it has to be monitored, supplemented and, if necessary, adapted with the aid of an increasing quantity of data. REACH and recycling will also continue to occupy us in the future. In the political discussions, there are tendencies towards higher recycling quotas, while at the same time, the requirements in the legislation on substances are being made tougher. Finding solutions to this target conflict is indeed a challenge that we must now face. Connected with this are standardisation projects dealing with plastics in the environment. Standards can lead to restrictions, but they can also be of major benefit if, for example, it is a question of quality standards for plastics recycling. This, too, is a challenge.

Apart from the plastics industry associations, a number of well-known companies are also shareholders of the BKV. What do you say to other companies to persuade them to join the BKV?

We not only help to make their product stewardship visible, we are also a kind of early-warning system for them. We draw their attention to opportunities and risks before they become a topic of broader discussion. For this, we offer a network that extends beyond the value chain and is broader than a single company can ever have. We can thus, on their behalf, make use of a wide range of expert know-how for industry-relevant projects, the results of which regularly meet with wide acceptance. As a neutral and fact-oriented institution, the BKV also enjoys a high level of credibility with stakeholders outside the industry. Our shareholders benefit from this when they use the data and facts drawn up by us for their business or communications.

BKV BOARD

The Board is the controlling body of the BKV that supervises the management. The present Board consists of five representatives of the plastics producing industry and five from the plastics processing industry. The board is completed by three permanent guests.



**CHAIRMAN OF
THE BOARD**
Matthias Stechhan
(LyondellBasell)



DEPUTY CHAIRMAN
Bernhard Borgardt
(Oste-Druck)



Dr. Jürgen Bruder
(IK Industrievereinigung
Kunststoffverpackungen)



Udo Collet
(EBK Kunststoffe)



Peter Heydasch
(Dow)



Rainer Kolar
(Bischof + Klein)



Dr. Melanie Maas-Brunner
(BASF)



Dr. Rainer Rettig
(Covestro)



Stefan Rieder
(Borealis)



Günter Schwank
(GKV)

PERMANENT GUESTS:



Dr. Rüdiger Baunemann
(PlasticsEurope Deutschland)



Thorsten Kühmann
(Fachverband Kunststoff- und
Gummimaschinen im VDMA)



Claus-Jürgen Simon
(PlasticsEurope Deutschland)

BKV

ORGANIGRAM

SHAREHOLDER MEETING

TASKS

The shareholder meeting decides among other things on the approval of the financial statements and the distribution of the profit, and also approves the actions of the Chairman and the Board.

BOARD

TASKS

The Board is the controlling body of the BKV and supervises the management.

MANAGEMENT

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Press and public relations

COMMITTEES

POLITICAL COMMITTEE (PA)

Spokesman: Dr. Gottfried Jung
Tasks:
Advise the BKV in fundamental matters of their work.

TECHNICAL COMMITTEE (TA)

Spokesman: Dr. Klaus Wittstock
Tasks:
Support the BKV in technical matters.

The Technical Committee (TA)

“BATTLE OF THE EXPERTISES”

The spokesman for the Technical Committee (TA), Dr. Klaus Wittstock, talks about the functions and issues dealt with by the Technical Committee, which advises and accompanies the BKV on technical matters. Experts from the BKV shareholders meet up several times a year to discuss current topics with regard to potential BKV projects, and to evaluate them and propose a final selection for the BKV to tackle.

Dr. Klaus Wittstock, head of Industry Advocacy & Environmental Policy of the BASF group, is one of the prime movers as regards the TA. He has been a member of the Committee for more than thirteen years, and its spokesman for more than half this period. The Technical Committee began its work in 2003 in the context of tecpol, and was taken over by the BKV in 2013. For Wittstock, it is a unique forum in which representatives of the entire plastics value chain work together.



How do you see the function of the BKV today?

WITTSTOCK: The BKV is for me a “speedboat” for dealing with technical matters. What federations and associations cannot do because of their structure, the BKV can do well and much faster. It can, for example, clarify technical questions quickly and uncomplicatedly in the broadest sense by carrying out studies. It is thus able to supply the associations and member companies with basic information to allow them to position themselves accordingly.

What role does the Technical Committee play in this?

An extremely important one, because we in the TA evaluate and prioritise all BKV projects. We propose to the BKV Board specific projects that we consider to be of key interest, together with the respective budget. We then support the technical work in so-called “advisory groups”. The critical examination of the projects and the related constant debate about their technical content contribute to the sound results of the studies, which enjoy high recognition in technical circles.

You have headed the TA as its spokesman for eight years now. What makes it so special?

For me, the Technical Committee is quite unique, and I know of nothing comparable in the plastics industry. After the BKV took

it over from tecpol, it was extended by representatives of the plastics packaging manufacturers, which was a good and long overdue move. The current discussion about a “Wertstoffgesetz”, for example, illustrates that just about everyone in the plastics industry is affected by issues such as this. The TA is an absolutely unique alliance of producers, processors, machinery manufacturers and individual recyclers. An alliance such as this between companies from along the entire value chain is without parallel. Here, representatives from companies and associations sit down at the same table and wrestle over the content. But it is not a wrestling match between competing companies, but more of a tussle between the ‘expertises’ in the interest of all parties – a tussle that is fought with a lot of commitment and technical know-how.

Who else is in the Technical Committee?

We are a club of twelve well-networked experts who, because of their position in their companies, have a considerable amount of clout. The quality of this group is no longer a secret, which means we often have to put an interested candidate onto the waiting list. This is because we agreed with the BKV that the group should not number more than twelve in order to remain efficient.

Have the topics changed over the course of time?

During the thirteen years of the Technical Committee, there has indeed been a marked shift in emphasis, namely from an initial orientation to purely technical matters to an increasing number of issues that affect the market. Through market studies, we are now endeavouring to gain an ever better understanding of waste volumes generally and, for example, what interests really predominate in the recycling of plastics waste (dual systems, collection, sorting and reuse). This is fundamental if we want to adopt a stance with regard to the discussion on recycling bins. Also with the latest study on

land-sourced marine litter, it is a matter of clarifying how plastics get into the sea in the first place, and what quantities are involved.

Marine litter is one of the main topics for the BKV.

I have rarely experienced a topic that, in such a short time, has become so newsworthy as that of marine litter, and in particular the matter of microplastics in the marine environment. There really is an urgent need to act here. Above all, however, we must clarify what it is all about, even though some people pretend they know already. But where precisely does this plastic litter come from? What types of plastic are we talking about? This is a typical topic for the BKV, because these are the sort of questions that all companies in the plastics industry are asking. Basically, it is also a case of preventing quick-fire legislation, which nobody really wants. One example is the regulation to reduce the use of plastic carrier bags, which focuses on all the supposed disadvantages of plastics even though this does not represent a real problem in Germany. The bad thing is that the relevant EU regulation means a return to individual solutions for each country by leaving it up to every member country to take measures to help reduce the consumption of plastic bags. Decisions such as this restrict free access to the European market.

Can you tell us some of the other current topics being discussed in the TA?

Apart from marine litter, the recycling bin is an important topic. Here, the BKV has

already done a lot of important preliminary work, which has led to us, as the plastics industry, supporting the setting-up of a central department. With the recycling bin, further potential would be opened up for recycling. This brings us to another topic that will occupy us a great deal in the future, because recycling – which we all want – is being subjected to adjustments that could make things more difficult. One of these is the Chemicals Act, which, in the event of rapidly made decisions by the legislator, could lead to a situation that, in many cases, will make recycling no longer possible. In this situation, decisions need to be taken with due consideration. Another is the question of the quality of the recycling. I have never understood the business with downcycling: For me there is no such thing as downcycling or upcycling, only recycling. Terms such as downcycling conceal an inadmissible evaluation of the product and thus also of the producer and the buyer. A product is good if both its technical performance and its price are right. That's the crux of it.

So what topics do you expect to be tackling in the near future?

In addition to the substance legislation, there are a whole number of regulations waiting to be dealt with in Brussels on the subject of the "circular economy". We also need to keep a close eye on this. Circular economy is of course basically a good thing. But we must make sure that it doesn't turn into a "Recycling 2.0". In Germany, we have, with the "Kreislaufwirtschaftsgesetz" (German Law on Closed Cycle Management), already directed our focus on the waste products. However, the aim we should be pursuing

together is resource efficiency. And, as all life cycle analyses show, resource efficiency comes about essentially in the product utilisation phase. If, for example, with an intelligent plastics packaging, we can ensure that a sausage has a shelf-life of not just three days but much longer so that it does not end up in the bin prematurely, then we have achieved much more for resource efficiency than with an easier-to-recycle package. In other words: The demand for recycling must not prevent innovations that provide greater resource efficiency. Instead, recycling technologies must adapt to the innovations and be further developed for them. Drawing up basic principles on both topics – namely resource efficiency and the further development of recycling technologies – is a typical area of work for the BKV.

The Political Committee (PA)

“CIRCULAR ECONOMY – WE CAN DO MORE THAN THAT!”



Dr. Jung, where are we today as regards a circular economy?

JUNG: I was recently asked to give a presentation on the topic of “The circular economy in a state of change”. I then asked myself: Why state of change? Do we already have a circular economy? Maybe the basics are there, but it is still in the process of being built. It is a perspective for the future, our model of the future, I am quite convinced of that. We are thus going down the right road, but there is a lot to be done. We are still very much stuck in linear economy.

Where, in your opinion, is it already functioning well?

Everything connected with product stewardship is moving in the right direction. With packaging, we have already made a lot of progress, but we can do more. The key to further progress is a commitment by the private sector within a framework provided by the legislator. As the legislator, I cannot prescribe a circular economy on my own. It doesn't work like that. Everyone involved in the economy must be a driving force in their own interests or for economic interests. In the automotive segment, for example, we see that the prescribed product stewardship is not really going anywhere. When used cars are exported, most of the critical metals are naturally also exported. Here, there is a need to act. We cannot prevent vehicles leaving the country, and nor should we do so because the vehicles still have a use in the target countries. But perhaps, via modern recycling centres built abroad with e.g. German know-how, we can ensure that the raw materials are saved. This could be of interest not only from an ecological aspect, but also for economic reasons, as the potential is growing all the time.

And what about plastics?

In the field of plastics packaging, the dual system has developed surprisingly well via product stewardship. What I particularly like about the plastics industry is that it has, of its own free will, created a competence centre – initially through tecpol, then the BKV – in which a great deal is jointly thought up and developed. That's what I call living product stewardship. That is why I have always become involved wherever I have been able to do so.

You have certainly also been involved as the spokesman of the Political Committee (PA). What importance does this body have for you?

The extremely fertile exchange of information in the PA is for me – and I assume not only for me – exceedingly profitable. The Committee offers representatives of various state governments, economic federations and companies an attractive and highly interesting communication forum, which is absolutely without parallel in the waste disposal landscape. The PA certainly holds a unique selling point here.

To get back to the circular economy: Was Töpfer's strategy of using a packaging ordinance to get the circular economy going – at least with packaging – the right one from today's point of view?

It was both a visionary move and the right one. The people with the relevant know-how should be called on to fulfil their duties. The German Packaging Ordinance of 1991 and Germany's “TA Siedlungsabfall” (Technical Instructions on Municipal Waste) from 1993 were key steps in waste legislation. From 1993 until the mid-2000s we had

Against the backdrop of his many years of experience, Dr. Gottfried Jung, spokesman of the Political Committee (PA), explains his views on the circular economy and describes what he feels is the best way to reach the desired target. In the BKV's Political Committee, representatives from administration, the plastics industry and their customer industries, plus NGOs, regularly meet to exchange ideas on the recycling and resource efficiency of plastics.

Dr. Gottfried Jung is currently head of the department for climate protection, environment technology, and circular economy in the State Ministry of Rhineland-Palatinate for Environment. In September 2016, this dedicated supporter of the circular economy will give up his official position. It was certainly not by chance that it was Klaus Töpfer who brought the young legal expert to the Rhineland-Palatinate Environment Ministry in Mainz in 1981. Jung still regards Töpfer's idea of a circular economy – which he developed in Mainz and later, as the Federal German Environment Minister in Bonn, introduced in the form of the first packaging ordinance – as a visionary and correct strategic move.

a "community body" (as I like to call it) of the people responsible for products, which, although it soon got a bad reputation as being monopolist, also brought a great deal of innovation, especially with plastics recycling. A lot of people have since forgotten that. With the sorting technology, for example, which started off with people having to rummage around in the litter by hand, sorting it on a conveyor belt, nothing short of a quantum leap was achieved. Over the time, a lot of things have been developed that are now taken for granted. As a consequence of the pressure imposed by the cartel office, around ten dual systems are now battling it out in the same field, in some cases with undesirable consequences, as we have had to experience in the last few years. Although plastics recycling has become cheaper, we have to measure it against the cost: In my opinion, innovativeness has suffered considerably in the tough competition.

With the "Wertstoffgesetz", there will now be a "central department" ...

Definitely the right thing to do! With the planned "Zentrales Wertstoffregister", the people responsible for their products again acknowledge their product stewardship. This will give a new, independent "community body". However, it must not become a government department because the people responsible for a product must be able to carry their responsibility by helping to shape the rules. This also means that the legislator must give them the corresponding scope. If the legislator doesn't want to do that, the logical consequence would be to immediately introduce a packaging tax instead.

Could the "Wertstoffgesetz" take us a step closer to the model of the future, the circular economy?

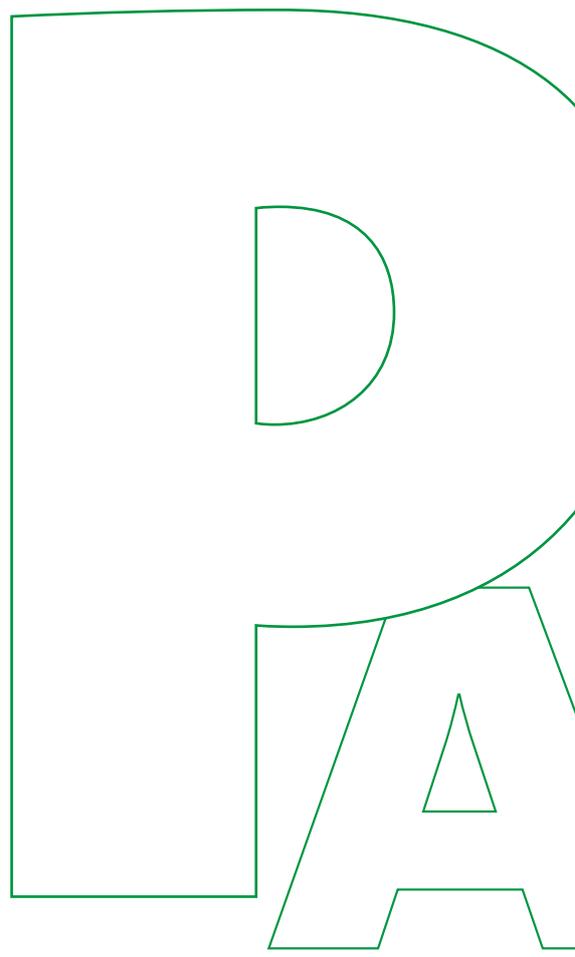
A little way certainly, but for a circular economy, even in the limited sense of the German waste management act (which is, as we



know, restricted to the avoidance and reuse of waste), there is still plenty of scope upwards. In the field of waste avoidance, very little has happened, which is why we have barely concerned ourselves about it in the past. We will need to take it very much more seriously in the future. We already have approaches that contribute to waste avoidance. The "sharing economy", for example, which involves the sharing and joint use of consumer goods, is very much on the up. Digital platforms ensure that the potential of the sharing economy is increasing all the time. "Cradle-to-cradle" is another buzzword that more and more companies around the world are making their principle of action. One example of this is the Mainz-based company, Werner & Merz. It offers selected products that move in a complete biological cycle with the packaging managed in a technical cycle. Greater repair friendliness is another catchword in connection with waste avoidance. All of these are only a few examples of existing approaches to avoiding waste in a subsistence strategy that is aligned to growth, also so that raw materials can be conserved. They also represent a further step away from the present linear economy towards a circular economy.

What role does EU's present circular economy package play in this?

It can certainly be criticised in many respects and there are definite gaps. What I find very positive, however, is the package's clear focus towards eco design. The idea of concentrating entirely on energy efficiency has been renounced, and now, quite rightly, the consumption of resources and recycling friendliness have been included. I hope this will attract plenty of positive response in the future. Overall, the EU's circular economy package creates for the first time a vision of a future European economic model. It is leading to a lot of fertile discussion among experts, also in industry. In fact, it is amazing how much attention is already being devoted to the topic of a circular economy at the annual World Economic Forum in Davos. That, too, shows me that the circular economy will be the economic model of the future



Projects

ASSUMING PRODUCT STEWARDSHIP

By restructuring the BKV to deal with its activities connected with product stewardship, the plastics industry has taken on a new face. As a competence centre for questions concerning plastics recycling and resource efficiency, the BKV has also, for the last three years, been providing not only its shareholders and the plastics industry, but also other interested parties with its study results and other information.

The reports produced as a result of this project work can be directly downloaded or ordered from the BKV website. An overview of the currently available reports can be found in the adjacent box.

The main areas of focus of the project work deal with current issues. At present, the BKV's project work is concentrated on resource efficiency, marine litter, statistics and market research as well as the influence of legislation on these topics.

In order to be able to handle such a wide range of topics, the BKV relies on a proven network of experts in the field of plastics and the environment. This includes specialists not only among the BKV's shareholders and stakeholders, but also from science and administration.

Resource efficiency is one of the big current topics. The careful and efficient handling of natural resources is moving increasingly into the focus of economic, ecological and social processes. The Federal German Ministry of the Environment has already introduced the second so-called resource efficiency program into the debate. The efficiency of plastics and their applications in the packaging segment has already been examined by the GVM (German society for packaging market research) on behalf of the BKV and shown that present-day materials and packaging technologies, compared with the technology available in 1991, save more than 950,000 metric tons of packaging material a year (see report from the GVM study "Development of the efficiency of plastics packaging – 1991 to 2013").

The complex topic of waste in the world's seas (marine litter) is generally tied to visible plastic waste. According to figures from the Federal Environment Office, plastics account for around three quarters of the marine litter. In literature, numerous studies and appraisals of the total volume can be found, but there is little explanation as to how and in what form plastics get into the sea. According to estimates, around 80 percent of the waste gets into the sea from the land. Against this background, the BKV has now presented a new methodology for systematically recording discharge pathways for land-sourced litter.

The legal framework for plastics recycling – a further main topic of BKV's work – contains regulations that can have high market relevance for plastics. Firstly, we have the "Wertstoffgesetz", the fate of which is to be decided in the course of the current year. And then we have the legal regula-

tions targeted in the EU Waste Management Act, which is now due for revision. Individual rules and regulations such as the substance legislation and the objectives of waste legislation with ever higher recycling quotas are leading to a conflict of targets between health protection, consumer protection, safety at work and recycling goals. This is also one of the subjects being tackled by the BKV.

Acquiring information and data on market developments is another project focus. In good time for the major event for the plastics industry – K 2016 in October in Düsseldorf – the new Consultic Study will be published with extensive data and information on the production, processing and recycling of plastics in Germany. This study, which appears every two years, stands for continuity, but is always prepared cautiously in order to be able to pick up on new issues..

Studies available from the BKV:

Ergebnisbericht: "Methoden und Hilfsmittel des Ecodesigns von Kunststoffverpackungen" (Öko-Institut)

Bericht: Vom Land ins Meer - Modell zur Erfassung landbasierter Kunststoffabfälle" (Consultic)

Study: Entwicklung der Effizienz von Kunststoffverpackungen - 1991 bis 2013 (GVM)

"Consultic-Studie": Produktion, Verarbeitung und Verwertung von Kunststoffen in Deutschland 2013

Study: Use and utilization of carrier bags and vest carrier bags for service counter goods in Germany (GVM)

Study: Analyse der PVC Produktion, Verarbeitungs-, Abfall- und Verwertungsströme in Deutschland 2013 (Consultic)

Study: Szenarien der Erfassung, Aufbereitung und Verwertung kunststoffreicher Abfallströme – Wertstofftonne (Witzenhausen-Studie Band II)

Tagungsband zum Workshop „Kunststoffabfälle ökoeffizient nutzen – Was kann in Deutschland noch besser werden?“ (Hannover)

Study: Aufbereitung und Verwertung kunststoffreicher Abfallströme in Deutschland (Witzenhausen-Studie Band I)

Study: Bewertung thermischer/katalytischer Verfahren zum Abbau von Kunststoffen (TU Clausthal)

Study: EBS-Nutzung in EBS-Kraftwerken in Deutschland. Schwerpunkt: Kunststoffe (umwelttechnik & ingenieure GmbH)

Study: Eco-efficiency analysis: Options for plastics waste treatment in Europe (BASF AG, PlasticsEurope Deutschland e.V., tecpol GmbH)

More information and ordering via www.bkv-gmbh.de/en/info-zone/studies.html

Main topic: Legislation

LEGAL FRAMEWORK

There is certainly plenty going on as regards the legal framework for plastics recycling, at least if we look not only to Berlin but also to Brussels. At national level, we are still very much occupied with the "Wertstoffgesetz" where there is still much hefty debate. Even though the outcome of this debate is uncertain, the job of setting up the central department continues. While it may be attracting less attention, the amendment to the regulation on industrial and commercial waste is also important. Furthermore, at EU level, several legal regulations are up for reform. The EU Commission's new circular economy package describes the aims and intended course in this matter.

"Zentrales Wertstoffregister" being set up

Since 2011, if not before, legislators have been wrestling over a fundamental amendment to the current packaging ordinance. What is essentially involved is stabilising the collection and reuse of lightweight packaging (including plastic packaging), and integrating so-called "same-material products" into a system that embraces the principle of product stewardship. At the beginning of 2015, the Federation of German Food and Drink Industries (BVE), the German retailing association (HDE), Germany's Plastics Packaging Industry Association (IK) and the German Trademark Association founded a project company to organise and finance the setting-up of a "central department". The aim is, as soon as a recycling act has been approved, to monitor coordination of the collection as a "sovereign" organisation. Apart from that, it will make sure the obligated parties attain the targets. The BKV assumes the plastics industry's share of financing the preparation activities. The BKV is also integrated into the preparatory specialist work and deals, for example, at expert level on classification issues (in other words, what counts as a "same-material product" and what does not) and on tackling the subject of recycling-friendly design.

Questions for Gunda Rachut, Managing Director of the BHIM GmbH ("Zentrales Wertstoffregister")

Ms. Rachut, how much progress have you made with setting up the "Zentrales Wertstoffregister"?



A good one and a half years ago, the project company began setting up the register, a task that is financed by the enterprises to the tune of over 2 million euros. Basically, the central department aims to provide for legitimate financing of the recycling of useful materials through the license fees. At the heart of the system will be the register of enterprises with their brands and data. It will take about another two years to get from the draft bill to a specification sheet, do the programming, set up the computer centre with its staff, and train representatives from the 50,000 or so companies.

Above all, it is important to involve experts from the many affected sectors of industry — both large and small — so that implementation of the IT systems can take place quietly and without fuss. The next steps now depend on the draft bill. Only when the rules and regulations have been specified can we start working on the implementation again.

How do you handle the uncertainty of whether the legislation will become reality or not?

The project steering group approved the funds for the project work for 2016 in December 2015. The next step is now the draft bill. We see serious interest on the side of the German government to conclude the legislation during the present period of legislature. That a controversial project such as this should take time is obvious.

When could you get going?

That depends how strong the will of those involved in the legislation process is to genuinely make a quantum leap in the circular economy and make compromises. We imagine that the new "Wertstoffgesetz" will come into force in stages. In this way, the market share calculation and the standards-setting process could be quickly implemented. The further setting up work would be continued in parallel until the register and database are ready to go.

Highlighting conflicts of target – Identifying solutions

On the one hand, the recycling quotas in various areas of application are increasing and, on the other, the demands made by the substance law (REACH) are becoming ever stricter because of the tighter restrictions on ingredients. It is becoming ever more difficult to remain on the legally safe path of recycling and, at the same time, fill ever more demanding quotas on mechanical recycling. To solve the problem, the BKV has drawn up a project approach together with

PlasticsEurope Deutschland and the working group PVC und environment (AgPU). Together with the key representatives of federal authorities, administration and industry, it aims to identify acceptable solutions that meet the requirements of the substance law and, at the same time, allow plastic recycling enterprises to handle such waste within the confines of the law. If the BKV can find sufficient partners to deal with this complex issue as part of a project, the work could get under way before the end of the year. Initial results could then be expected in about one and a half years.

EU puts together a new circular economy package.

At the end of 2015, the European Commission made true its promise to submit a draft for a new circular economy package. The package is a program of action for the present Commission for its entire period of office, and contains comprehensive proposals on modifying European waste legislation. The proposals aim to increase the recycling

of waste and reduce landfilling. By 2030, for example, the Commission aims to set a recycling quota Europe-wide of 65 percent for municipal waste and 75 percent for packaging waste. Depositing on landfills is intended to fall to a maximum of 10 percent for all waste during the same period. In addition, the package contains many measures that affect all phases of the product lifecycle, from production and use to the secondary raw materials market. The Commission

will keep a particularly close watch on the plastic sector and, for a strategy on plastics in the circular economy, will take into account key matters such as recyclability, biodegradability, the presence of hazardous substances in certain plastics, and marine litter. This should lead to a proposal for a more ambitious target for the recycling of plastic packaging in the revised legislative proposal on waste.



Questions for Ulrich Schlotter, Project Director at the BKV

Mr Schlotter, there is a great deal going on at present as far as the legislative framework for plastics recycling is concerned. What are you focusing your attention on at the moment?



The “Wertstoffgesetz” is currently a dominant subject. Two points in this draft are of particular relevance for plastics: Firstly, the recycling quota of 72 percent given in paragraph 17 for licensed packaging and goods and the 76.5 percent quota just five years after the act comes into force. The

second point, in paragraph 21, is the fixing of a sanctions system for recycling-unfriendly packaging and goods. Raising the quota for mechanical recycling is feasible with the present state of the art. The currently low energy costs and the improved utilisation of incineration capacities also offer a favourable market for this. However, the quota of 72 percent for mechanical recycling stated by the legislator is unattainable in the given technical environment. Based on three scenarios, GVM has estimated what quotas would be attainable in 2018 under a “Wertstoffgesetz”, whereby the licensed quantity serves as the reference.

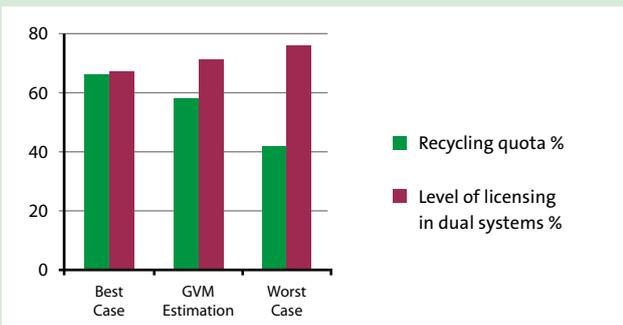
The attached graph illustrates that, with a mounting degree of licensing, the percentage of recycled material falls. This can be explained by the fact that the reference selected here – the licensed quantity – does not have any influence on the quantity actually

recorded. This means that, with a decreasing level of licensing for a given technology, the percentage for mechanical recycling increases. This most certainly does not conform to the real target of the regulation.

Imposing a sanction system for goods and packaging that are not designed with recycling in mind focuses on a single criterion of the much broader Eco Design principle. If, with the Eco Design approach, we look at the advantages and disadvantages over the entire lifecycle (and this also includes considering recycling-related questions), recycling-friendly design refers solely to the properties after use. Especially for plastics, this can lead to an appreciable additional burden over the full lifecycle. The BKV has commissioned PROGNOS to analyse, together with GVM, the question of what kind of recycling-friendly design can really contribute to mechanical recycling on condition that higher-ranking objectives of the circular economy such as waste avoidance are not negatively affected.

What opportunities and risks do you see here for the plastics industry?

The intensive dialogue with the customer industries (which are the main standard addressees of the “Wertstoffgesetz”) gives us the possibility to provide them with specific answers to specific questions from the market and from politics. From our point of view, this increases the acceptance of plastics and the plastics industry among our customers. The BKV provides the necessary facts for future talks on these matters, and thus gives important support to the plastics industry associations.





Main topic: Marine litter

VIA THE RIVERS

In seas all round the world, there is an abundance of plastic waste that simply does not belong there. The question is how does plastic waste get into the sea in the first place and in what quantities? A reliable answer to this question is still lacking. That is to say there are at least no practicable methods for effectively preventing plastic waste from finding its way into the sea. It was issues such as this that persuaded the BKV to commission Consultic GmbH to develop a fresh approach for documenting how land-sourced plastic waste gets into the seas. FCIO, IK and VDMA are supporting the project. What has emerged is a model for systematically recording the discharge pathways for such litter. The new methodology was tested for the first time in the North Sea. Discussions among the experts will help to further develop this approach.

Also in countries like Germany, where a well-functioning waste management system is established and the collected plastic waste is almost 100 percent recovered, there is still some litter that does not take the proper path. One example is the litter that lands in the countryside because people behave irresponsibly. In some cases, this litter is subsequently taken to a proper landfill. However, some of it still remains in the environment, and some of this ends up at some time or other in the sea. One component of this is made up of plastic waste. Until now, it has not been known what percentage of plastic waste is involved here and what routes this litter takes to end up in the sea. The assignment given to Consultic GmbH (which has plenty of experience with facts and data on plastic waste) was to systematically document, structure and quantify the main discharge pathways for plastics.

One example: the North Sea

Consultic identified five relevant discharge pathways via which plastics get into the sea:

"rivers", "coasts", "river shipping", "landfills" and "ports". When calculating the quantities involved, Consultic takes into account several factors, including the relevant population density and socio-economic characteristics. Over and above that, it differentiates between plastic waste near the coastline and plastic waste in surface waters.

The methodology is currently being tested in the North Sea. It is quite natural that waste from marine shipping, cruises and fishing, so-called "sea-sourced litter" should end up there. The Consultic research team is, however, focused on land-sourced litter, particularly as it is still assumed that 80 percent of the litter nowadays found in the seas comes from the land.

Most of it comes via rivers

The initial results are already being discussed in technical circles. Because of the limited amount of data available, the model is still working with a few assumptions. For example, the model assumes a factor of approx. 0.3 percent of the total quantity of plastic waste as the quantity of waste not disposed of properly in Germany. Based on this quantity of "improperly" disposed-of waste calculated in this way and also ap-

plying the developed methodology, we get the following results: The dominant discharge pathways, accounting for around 80 percent of the total waste, are rivers and coastal regions. The remaining fifth of the discharges is distributed among "river shipping" and "ports". The majority of this is macro-plastics, in other words plastic residues from visible waste.

External experts evaluate

The more assumptions and estimates that can be substituted by valid measurements, the more accurate the results calculated with the model become. Obtaining such data and working it into the model will be a task for the next few years. Furthermore, the model parameters will have to be constantly re-examined and, if necessary, adjusted. External experts are also evaluating the methodology. Back in December 2015 in Hannover, experts from administration, science and industry discussed the new approach at the invitation of the BKV. At the end they declared their willingness to support the further development through their personal commitment and, where possible, to make data available from their own fields of responsibility. The next expert workshop is scheduled for the beginning of June 2016..



Questions for Stephanie Cieplik, Project Manager at the BKV

Mrs Cieplik, news of the new model for documenting land-sourced plastic litter is gradually arousing interest among the experts. What has been the initial reaction?



In 2015, we presented the model for the first time to experts, including the German Federal Environment Office. In December last year, we then discussed our methodology during a workshop in Hannover with experts from administration, science and industry. The reactions to our model were very positive across the board. Especially during the course of our workshop it became clear that our procedure meets with acceptance. In addition, the participants said they were prepared to support the further development of the model. Since March 2016, anyone interested can order, free of charge on the BKV website, the report and handbook about our model. Within a few days, we had received over 70 orders. Interest in our methodology is thus considerable and the feedback I have obtained since then has also been very positive.

Where, in your opinion, should we go from here?

Our workshop in December gave us many ideas on how to further optimise our methodology. We have discussed these together with Consultic, and the report and handbook are currently being revised. The revised model is to be discussed once again during a workshop for experts in June. The constant dialogue and discussion with these specialists are of major importance for the further development and increased acceptance of our model. After all, the model aims to become a generally accepted tool for decision-makers in order to identify major discharge pathways, to appraise their importance both qualitatively and quantitatively, and thus to be able to evaluate the influence of measures and activities. We thus want to move further along this road. Another important aspect is the continuous updating

„Vom Land ins Meer – Modell zur Erfassung landbasierter Kunststoffabfälle“

A report (including handbook) dealing with the new model for identifying how plastic waste gets into the sea is available free of charge at www.bkv-gmbh.de/en/info-zone/studies.html. The report is only available in German.

Newsletter „Land-sourced litter“

Together with IK, FCIO and VDMA, the BKV has published a newsletter on the topic of „Land-sourced litter“. Anyone interested can obtain the latest information on projects, research and ideas to reduce further discharges into the sea. It is published three to four times a year. Anyone interested can register at www.bkv-gmbh.de/infotehke/landsourced-litter-newsletter.

of the model with current data and information. Only in this way can we make valid statements on the discharge pathways of land-sourced litter on its way into the sea. In addition, of course, we want to later apply our methodology to other regions and seas. For this, a translation of the model into English is essential.

Does the BKV need more support for the continued development?

Definitely! After all, the current model is still based on many assumptions and estimates. We want to validate this step by step through more accurate measurements taken from real life. For this, we are dependent on the information and results from current research projects. The model parameters are also to be examined and, if necessary, modified. All this is only possible if we continue to receive support with facts and technical findings. The first steps in this direction have already been taken, and we will continue the ongoing dialogue.

Main topic: Market data

DATA BASIS

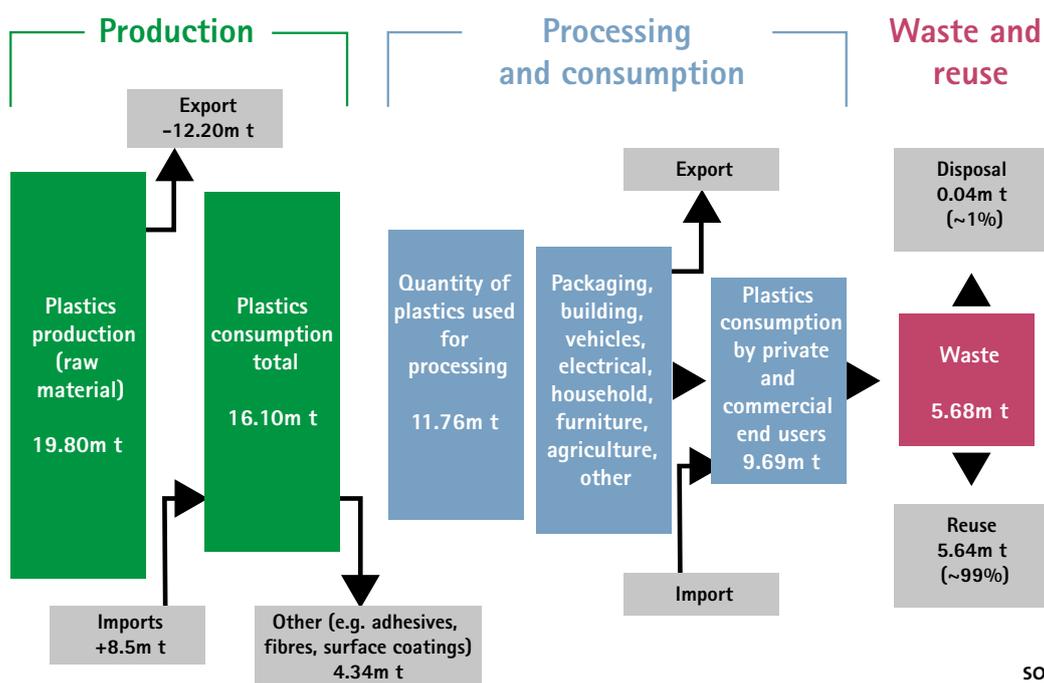
Every two years, the so-called "Consultic study" on the production, processing and reuse of plastics in Germany is published with freshly acquired data. The next edition will appear in autumn 2016. In good time for the plastics trade show in Düsseldorf, the 2015 data for the entire plastics value chain will appear in edited form.

The outstanding feature of this regular analysis is its high quality and the resultant broad acceptance. Many trade associations and organisations in the plastics industry are behind the study. Apart from the initiators, BKV GmbH, PlasticsEurope Deutschland e.V., IK Industrievereinigung Kunststoffverpackungen e.V., Fachverband Gummi- und Kunststoffmaschinen im VDMA and the Bundesverband Sekundärrohstoffe und Entsorgung e.V., the study has been supported by the Gesamtverband Kunststoffverarbeitende Industrie, the Arbeitsgemeinschaft PVC und Umwelt e.V. and

RIGK GmbH. The edition with the 2015 data should become available in October. A short version of the study can be downloaded from the BKV homepage. The long version can be ordered subject to a charge.



OVERVIEW OF PLASTICS IN GERMANY IN 2013



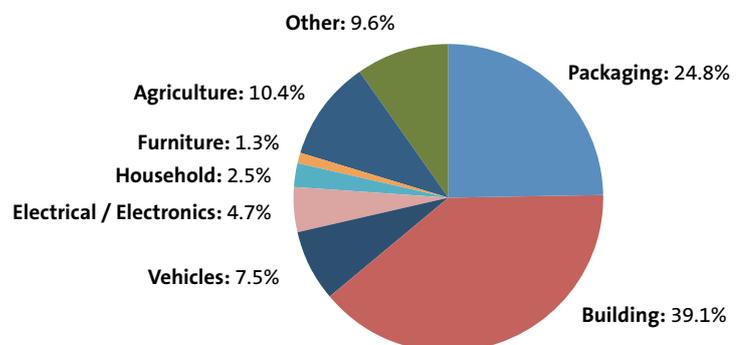
SOURCE: CONSULTIC



Study now includes recyclate

The latest Consultic study will also contain additional information on the industries in which recycled plastics are used. In 2013, recyclate ended up primarily in building, packaging production and agriculture. We have received many requests by the authorities to give data not only the quantities recycled, but also to provide statistics on the processed quantity of plastics broken down into virgin and recyclate material. For the coming years, this will be a key aspect of the further development of the study.

SHARE OF RECYCLATE USED IN 2013 (related to the recyclate used in Germany)



Plastics recyclate from post-industrial and post-consumer waste is used predominantly in the building and packaging industries and in agriculture. To a lesser extent, it is also used in vehicles and electrical/electronic applications.

BKV NEWS

COMPACT INFORMATION EVERY WEEK

Our newsletter has followed a proven concept over many years: You receive a mail with teasers to enable you to decide quickly whether you are interested in the topic. Only when you click on "continue" do you receive more detailed information.

- What is the press writing about resource efficiency and the reuse of plastics? Every week, we summarise the reports for you to provide an overview of current topics.
- What's new on these topics in our industry? Our news keeps you up to date.
- What relevant events are scheduled? Our event tips save you from the task of consulting many different calendars.

Interested? You can register at: www.bkv-gmbh.de/infotehk/bkv-newsletter.html. Or you can send us a mail at: info@bkv-gmbh.de.

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May 2016, © BKV 2016

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