



Interview with the management of PACCOR Packaging

Andreas Schütte: “We’re keeping plastic packaging in the loop”

“Exporting waste was basically a mistake”/ “Single-use can also be multiple-use”

*Symbolic politics focuses on large symbols. The German federal government has now decided to end the practice of throwing away single-use plastics that end up in the rubbish instead of being recycled or reused. In doing so, it's implementing an EU directive that wants to ban waste-intensive single-use plastic products from 2021. But what makes plastics irreplaceable are their ability to protect food. During a pandemic, hygiene is not just something that happens by chance. When it comes to reuse and recycling, though, plastic packaging manufacturer PACCOR has gone a significant step further: the company has the **technological capability to recycle plastic packaging in a genuine material loop**, as its board members **Andreas Schütte** (CEO) and **Nicolas Lorenz** (CCO)*

explain in the following interview. The new technology it uses to sort waste has the benefit that the utility value of plastic packaging can be utilised indefinitely, for instance for the important task of avoiding food losses.

The technology co-developed by PACCOR also guarantees that plastic packaging that was previously classified as non-recyclable can also be fed into a closed loop of reusable material. The recyclate obtained in this way is fully compliant with the EFSA guidelines for recycled material in contact with food. PACCOR thus has the necessary prerequisites to be able to completely identify and sort packaging waste.

Question: Mr Schütte, you were previously with Gerresheimer AG, from glass to plastic packaging? Does your career leap from Gerresheimer to PACCOR mean you are now exposed to a more intensive debate taking place in society?

Schütte: I was already specifically responsible for the plastics division at my previous employer, whose history is based on glass.

Question: Plastics and Devices, that was the name of the division, wasn't it?

Schütte: Precisely, for those plastic products whose technical and economic benefits are undisputed, namely for pharmaceutical applications where the use of plastics is valued and not called into question. Whereas now, at least as far as public perception is concerned, I'm on the side of those applications that are generally criticised and whose usefulness is being queried.

Question: Does it mean you're acting as a kind of devil's advocate?

Schütte: Yes, you could say that. However, since I started my professional career, I've learned that you should never bet on just one material. And above all, you should never approach a matter dogmatically! Because every material has its specific justifications. For example, the bumper on a car is no longer made of chrome-plated steel, which was used until the 1980s, but of various materials, such as aluminium and above all plastics. This leads to weight reductions and thus also contributes to the conservation of resources or avoiding their use.

There is a similar situation in the field of packaging – using the right material is crucial for achieving the de-



sired goals. These also include minimising weight, but the most important goal is to protect the contents. These must be protected for a long time in keeping with the specific purpose. Especially during times like the current coronavirus pandemic with its constantly increasing hygiene requirements, packaging makes a significant contribution to protecting the public.

And last but not least, packaging is repeatedly proving its worth in avoiding so-called 'food waste'. It's common knowledge how much food is being thrown into the rubbish bin – most of it unnecessarily. Using the right packaging helps keep such waste to a minimum.

Question: It's not without reason that the Federal Ministry of Food is conducting a major campaign against food waste. But have we understood you correctly, are you saying that packaging should not be seen in a fundamentally negative light under the aspects you mentioned?

Schütte: In my opinion, it's always a matter of weighing up different factors. In the current discussions we're unfortunately always focusing on a single factor, namely avoiding CO₂ emissions. CO₂ obviously plays a major role in protecting the environment. But it's not the only one. The decision as to whether a product is ecological or not is made both during the extraction of the raw material and at the end of its life cycle. The so-called 'cradle to grave', a term that has also found its way into the German language. One must consider the entire supply chain and not just look slavishly at a single factor. Important questions in this context include the following: How much water is consumed during the life cycle of a product? How much chemistry is used in the water treatment process? How much land area is needed? What transport routes must be taken? These are all questions that are often ignored in the debate about multiple-use or single-use products. What I'm trying to say is that to assess products – as



well as services – many factors must be considered holistically along the entire process chain.

It's not without good reason that the EU Commission has now defined a metric other than CO₂ emissions as the key benchmark for the environmental compatibility of products: the so-called product environmental footprint (PEF) which is a measure of a product's environmental impact. This method for measuring sustainability performance holistically has been developed by the EU Commission in cooperation with experts and admittedly it's still at an early stage. It determines a wide range of parameters that represent the relevant environmental and health impacts as well as a product's resource-related impacts. The whole life cycle of a product from the procurement of its raw materials through to its final disposal is taken into account in the calculation. And the results suddenly look completely different, even if they're not the ones politicians want.

Question: So, in the end it's all about finding the right packaging for the right purpose?



Schütte: Absolutely, the right packaging must be selected for the right purpose. And above all, a holistic approach must be taken. Let's look at paper as an example. Nowadays it's a widely accepted aim to use as much paper packaging as possible. But where's all the wood going to come from to replace plastics

with paper? It can't come from waste-paper alone! Every time paper is recycled, the fibres become shorter and must be replaced by fresh wood. So where should we plant the forests that are needed? As far as I know, there's only one type of tree that grows back so quickly, that it could meet these needs: eucalyptus. And that grows in the tropical regions. So, to grow eucalyptus, tropical forests will have to be cleared. In addition, eucalyptus forests would require lots of water. Added to this is the cost of transport. And when the wastepaper finally reaches the end of its life, it must either be deposited in landfills or incinerated – and both processes generate CO₂.

In this respect, the myth of paper as an ecologically safe raw material is, in my opinion, pure ideological wishful thinking.

Question: So, paper is an example of how the evaluation of a raw material can change as more facts become available?

Schütte: Exactly. Using the PEF approach, I mentioned earlier, we've had life cycle assessments drawn up in which we've deliberately compared our products with alternative paper solutions. The same energy mix was always assumed for all comparable products and the most unfavourable assumptions were always made. The result? The life cycle assessment of paper packaging is not better per se than that of plastic packaging. Often, it's even worse!

Regardless of this, there's another aspect we should mention. Try pouring a liquid into packaging made only of paper without it starting to drip after a short time. Magicians may be able to use tricks to pour water into a bag of French fries and then make it disappear. But in reality, paper has to be coated with polyethylene before it can hold liquids, like coffee-to-go cups.

Such a combination of materials consequently means that this type of packaging can't be selectively recycled using the technologies available today. Packaging like this therefore becomes hazardous waste or is sent to the incineration plant. For me, this raises the question as to whether it's good for the environment if we replace a completely recyclable plastic cup with a non-recyclable product? This is not sustainable and even Environmental Action Germany is now demanding a ban on these products.

Question: Let's ask the question the other way round: What are the advantages of plastic packaging from a climate and environmental protection point of view?

Schütte: First of all, for me, plastics are recyclable just like other materials. Plastic packaging makes it possible

to achieve several goals. For example, a plastic cup can be used to transport and consume a liquid. Then this cup can actually be recycled. In the meantime, we've built up streams of recyclable materials in order to take back used plastic packaging and really be able to operate in a loop.

Secondly, the fact that food can be sealed airtightly in plastic packaging helps prolong a product's minimum shelf life. We offer solutions for

timum balance is achieved between the primary benefit, namely the packaging as such, and a secondary benefit to provide information about the product as well.

Question: You've just spoken about your products. Can you briefly explain what PACCOR actually does, what kind of company it is and where the consumer might come into contact with PACCOR products?



this that have special barrier properties, such as oxygen impermeability. And plastic packaging fulfils all the hygiene requirements.

Thirdly, plastics are light and have the unbeatable benefit that you can transport a maximum amount of contents, and not just packaging – the situation's different with glass. Nowadays, not everyone understands the term 'tare' or the difference between gross and net weight.

And last but not least, form follows function – plastic packaging can be adapted so flexibly to the packaged goods, designed so variably that an op-

Schütte: Well, ideally, consumers use PACCOR products every day. We're a company with a long tradition. PACCOR was formed from the merger of two leading companies in the packaging industry.

First of all, the French Veriplast group was acquired in 2007 and this was followed by the acquisition of the Consumer Goods division of the Finnish packaging group Huhtamäki Oyj in 2010. Both companies were then merged to form the PACCOR group in 2011. In addition, several former state-owned companies were acquired following the opening of the Iron Cur-



tain in eastern Europe, and these were then integrated into companies that already existed. This means that if you look at the individual plants PACCOR has a very long history but the group itself is rather new.

By the way, the name PACCOR is derived from the words PACKaging and CORE – ‘Packaging is our Core Competence’.

We produce rigid packaging, such as trays for meals and meat, containers for ready meals, beverage cups, yoghurt pots and many other products that you can find in the retailer’s fresh food section. We cover several large segments. One can be grouped under the heading ‘dairy products’. Then there is the area of so-called industrial food or processed food with products for pre-packaged salads or ready meals, such as sushi. In our catering sector we produce beverage cups or covers for menu trays, for example for airlines. We also produce so-called form fill seal (FFS) films – which are flat products comparable to steel or aluminium

strip material. This product is formed, filled and sealed by our clients in a continuous process. PACCOR’s customer portfolio is broad: our clients include not only multinational corporations, but also regional customers, and they all have confidence in our ability to develop the most sustainable products for the future.

Our regional focus is essentially Europe. Here we are one of the leading companies in our industry. In terms of tonnage processed, we’re number three in Europe. We’re convinced we can still grow very strongly in the market segments we serve, even though European policymakers seem to be aiming to kill off the plastics industry.

Question: Many people are now concerned that the large amount of plastic waste is damaging the environment. In your opinion, can environmental protection and plastic packaging be reconciled?

Schütte: Yes, absolutely.

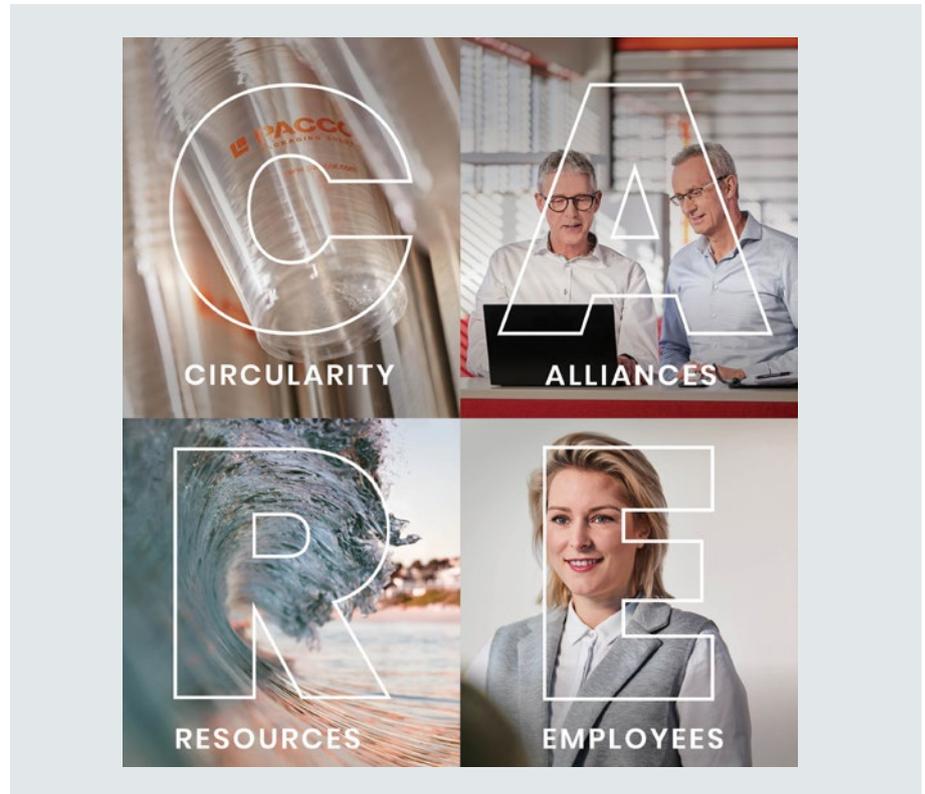
Lorenz: In principle, all the products we manufacture today could be for multiple use. And based on the current state of technology we could also recycle all our products. However, there are regulations which do not allow this – especially in our industry, because our products are used to package food. By law, food packaging must meet certain requirements if it’s made from recycled waste.

If the recycling of plastic packaging were ideal, the consumer would only have to return the packaging to the material loop and not throw it away senselessly. He would thus remain a consumer with a special task. Because we as an industry could use special technology to sort plastic products out of the reusable materials loop in order to recycle them. That would be ideal. Is it possible? Yes. What’s standing in the way? Usually politics.

Schütte: It’s our explicit wish that plastic is recycled, and as much of it as possible. Because we regard it as

a recyclable material. We've already created the prerequisites for separating plastics from waste according to type and then recycling them. We return the plastic packaging to a closed loop. That's our goal. It is definitely not our primary interest that the plastic is thrown away. Because single use is a dead end. We therefore take a positive view of any regulation that helps ensure that the individual packaging materials – regardless of whether they're paper, glass, plastics or whatever – are evaluated in the same way as they actually contribute to the various emission classes in the environment over their entire life cycle. All materials or product groups should be compared using life cycle assessments, whose implementation must be standardised. Many preconceived, ideological views would then be quickly put into perspective.

Take the glass bottle, for example. Not only is considerable energy required for glass production: glass also need sand as a raw material, and this is increasingly becoming a sought-after and rare resource. It's been proven that it makes no sense to transport glass bottles back and forth over thousands of kilometres in reusable containers. Just think how many additional trucks will be needed for this useless toing and froing. And not only do the glass bottles have to be transported full in the one direction, to the consumer, with the increased weight due the glass bottle meaning a smaller quantity of the contents can actually be transported: later, when they're empty, the same glass bottles must also be transported back again. Our roads are already overcrowded. Huge amounts of water and aggressive chemicals are used to clean and refill returnable glass containers. Does this make ecological sense? I'm not the only one who has



serious doubts about that. From an environmental point of view, returnable glass containers only make sense over short distances, if at all.

Question: There is currently discussion about a so-called plastics tax. How do you assess the ecological steering effect?



Schütte: Quite simply, from an ecological point of view you must put it in the 'ill-conceived is badly designed' category. Current legislation does not consider a deposit system via which our material could be returned. Instead, plastics are to be made more expensive through a levy. Such a system will end up making the consumer pay, without making any positive contribution to environmental protection.

Why? Because time and again consideration is only given to a single aspect, namely CO₂ emissions, instead of taking a holistic view of the issue of environmental protection. Against the background of a New Green Deal, the European Commission is discussing the introduction of a plastics tax, which is intended to have an ecological steering effect.

In our opinion, the plastics tax now being discussed will in fact only plug holes in the EU budget – and this is being done deliberately regardless of

whether it acts as a real ecological incentive.

The challenge is to convince the consumer to recycle every kind of packaging! All that has to be done is to dispose of everything in a yellow bag or via comparable waste systems. The collected waste can then be separated according to type. This also applies to different types of plastics, whether PET or polypropylene, and the necessary technologies are already available for this. However, instead of supporting and intensively promoting sorting technologies, the political side is unfortunately doing exactly the opposite. Even the Fridays for Future movement is leaving piles of rubbish behind at its demos – what a double standard!

Lorenz: In the plastics directive from 2015, the European Commission already stated clearly that investment should be made in the recycling infrastructure, so-called waste management. It has given the individual member states free rein for these investments, depending on how they want to use these technologies. Three years later, the Commission is messing it all up again because it's being pushed into doing so by the Fridays for Future movement.

The EU Commission has reinvented itself on the issue of plastic packaging within a period of three years. Before the last legislative period, the EU Commission asked the member states how they perceived the EU. Some 36 per cent of the EU citizens questioned attested that the Brussels authorities had done a good job. However, after the Commission started to follow the Fridays for Future movement and to deal with the climate issue, its popularity ratings shot up to 63 per cent. So, for the time being, it probably has no choice but to continue in this direction.



Question: So, do you basically perceive politics as being driven by populist opinions?

Schütte: Everyone wants to be re-elected ...

Lorenz: It's difficult to prove to what extent political views or decisions are influenced by trends or the mood of the public. All I can say is that the German federal government is currently in favour of promoting sustainable projects. At the same time, it's calling for plastics to be taxed more heavily. That's a contradiction! After all, our ideas and technical achievements in bringing plastics into a recyclable material stream are worthy of any sustainability award. That's why, from an ecological point of view, politicians should do everything possible to invest in a concept for plastics recycling and then implement it.

Schütte: At this point, though, I'd also like to point out once again the ben-

efits and the justification for plastic packaging. Take a cucumber, for example. It's not grown in Germany; it comes to us from Spain and takes about ten days to travel from the field to the supermarket. To ensure that it retains its freshness during this time and does not shrivel, the cucumber is sealed in a thin plastic film. After all, the vast majority of consumers prefer visually perfect products. Shrivelled cucumbers lead to increased food waste, in other words the unused or unsold food that goes to waste. Large supermarket chains have already started attempting to do away with the film. Consequently, Spanish producers only delivered their cucumbers against prepayment. Because they know very well that in case of doubt German consumers will decide against the shrivelled cucumber.

Another important argument in favour of plastic packaging is the issue of hygiene. This has been particularly evident during the current coronavirus crisis. Unpackaged goods are handled a lot because every consumer wants to have the firmest apple and the firmest tomato. This can only be achieved hygienically if proper packaging is used. This is also the best way to actively counteract the spread of viruses and bacteria of any kind. We can gladly discuss whether it should be flexible or semi-rigid plastic packaging. One thing that is certain, though, is that these requirements can't be met using uncoated paper. Its surface is too rough for this and it is an ideal breeding ground for moisture, mould and the like. With paper you can achieve exactly the opposite of what you want to achieve. And paper is also not transparent, so it doesn't allow you to inspect the goods visually.

Facts like these are largely ignored in discussions all over the country,

though. This is all the more regrettable because it's counterproductive. Instead, the politicians who are responsible allow themselves to be driven by the spirit of the times, by populism, to short-sighted actionism, instead of initiating sensible, lasting solutions.

Question: Is it true that an unpackaged cucumber can be kept for three to five days, but a cucumber wrapped in film can keep for 15 days?

Lorenz: Actually, a cucumber wrapped in film stays fresh for ten days longer. If that's not a contribution to avoiding food waste and supporting sustainability.

Schütte: And there are any number of examples like this that can be cited!

Question: How could an efficient concept for the recycling of plastic packaging be implemented in concrete terms?

Schütte: To start with, the consumer must first be made aware that packaging is a valuable material. For example, we're not opposed in any way to having a deposit or comparable take-back system. The consumer must have an incentive to return the packaging. Secondly, the legislator is called upon to create clear framework conditions to ensure that those involved in such a reusable materials loop fulfil their obligations to invest accordingly.

For example, a recycling company that can resell the separated recyclable materials must first set up the necessary sorting facilities to separate the plastics, glass and paper. It's also important that the system recognises

whether plastic packaging has been used in the food industry or whether it's been used by the painter as a paint bucket. This is because the latter type of packaging can't be recycled and then reused for food.

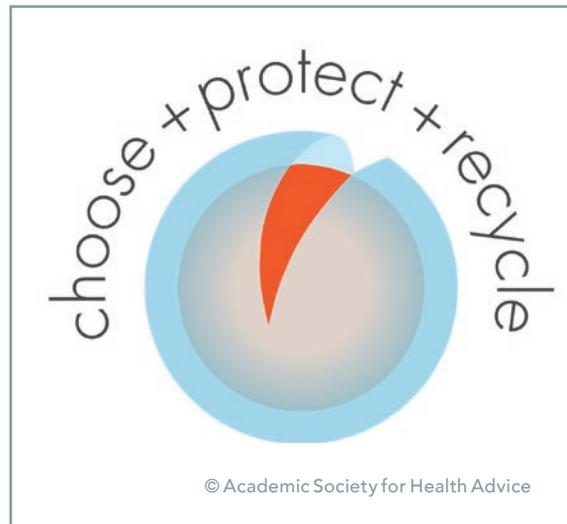
To make it quite clear once again: the technologies are in place to identify and separate packaging and then return it to the recyclers or to us, the processors. However, until now those involved have been shifting the responsibility to each other when it comes to

Question: PACCOR is now aiming for one hundred per cent recycling. Are you ready to implement this?

Schütte: Technologically, all the solutions are available. Our problem is rather that we don't get back enough valuable material from the separation process. Many of our competitors are now also technologically capable of using only material that has been recycled.

Question: Why don't you get enough material back? Is there something wrong with the collection?

Lorenz: Let me try to illustrate the problem using PET as an example. The so-called 95-5 rule applies to products that we supply to the food industry. According to this rule, 95 per cent of a product that we have manufactured from recycled material must have been food packaging at some point in its previous life. But it's impossible to identify such packaging during



who has to make the necessary investments. This is where the legislator is called upon to give clear signals and stipulate that whoever recycles the material and makes a business out of it must also defray the costs for the necessary investments.

It's actually quite simple: anyone who wants to sell processed waste as recyclable material and has to sort it for this purpose must also invest in the sorting facilities needed to do it. Unfortunately, however, the sorters are currently still working on potential that is still there to be tapped. And this is where politicians must finally live up to their responsibility and send the necessary signals.

the initial sorting stage in the recycling plant. The belt there runs at four metres a second and the cameras can only detect the structure of the products and the material. At some point, therefore, sorting became limited to those products that had definitely contained a foodstuff. And these are the PET beverage bottles.

For a long time, the beverage industry wasn't very interested in recycled bottles. That's why we had sufficient access to recyclable material. We can process quite a lot of PET from bottled products: 1.2 million tonnes a year in Europe.

But it isn't enough material for a truly closed recycling loop. Because



the bottle manufacturers are now also wanting their own products back. In this regard, the interesting question arises as to who actually owns such a bottle. After all, the consumer pays a deposit for the bottle when buying the beverage. Does this mean that only the contents become his property, is he only the temporary owner of the bottle? Some bottle manufacturers point to the deposit system in Germany and demand the return of all their bottles in order to be able to reuse them or make a recycle out of them. In this way they take this material off the market. This is another of the very many weak spots in the field of plastic packaging that only the legislator can eliminate. However, there is enough plastic material that has not been recycled at all so far. And we're committed to ensuring that this reusable material can also be recycled after use.

Question: How do you ensure that recycled food packaging complies with hygiene requirements?

Lorenz: The material is first treated at 90 degrees Celsius in a caustic soda solution, dried and then processed into flakes; after another half an hour at 160 to 180 degrees in a decontamination unit and further processing at 260 to 280 degrees in an extruder, all possible residual materials have been completely removed.

We've implemented the relevant recycling regulations, which were drawn up at the request of the European Food Safety Authority (EFSA), we comply with them and we've acted upon them. We've developed technologies to process recycled material in such a way that it can be used to create new food-grade packaging. However, this must also be taken into account by the responsible authorities. What's the point of our commitment in this area if politicians don't listen to us, don't show any interest in our solutions and don't seem interested in following their development and at least allowing investment in these technologies? Instead, they are discouraging all possible interested parties!

Take as an example the near-infrared technology in the camera sector used for sorting out recyclable waste. If all waste incineration or recycling plants in Europe were to be equipped with this technology, it would probably cost around eight and a half billion euros – just for one such camera in every company, and these are often in municipal ownership. In view of the need for such investments, politicians tend to ban plastics completely rather than say they could be used again.

Schütte: These examples show how ignorance dominates the discussion of this topic. Far too many catchwords are lumped together and jumbled up, be it microplastics and plastic waste in the oceans or something else. Instead, in our view, the first thing to do is to sort out who is responsible for what. Where do the microplastics come from? They're used in cosmetics. Another major source is elastane in clothing, which is rubbed off by washing powder and then disposed of in the sewage. Tyre wear from cars and heavy goods

vehicles also releases microplastics and fine dust into the environment – and electric cars don't change this.

Let's look at the plastics in the ocean, which is so well suited for use by the media. The rubbish in the Great Pacific Garbage Patch certainly wasn't originally disposed of in European seas. Even if a plastic bag were to be thrown into the North Sea, the ocean currents would make it impossible for it to ever land on the Galapagos Islands as a danger to turtles.

To avoid any possible doubt and make it unmistakably clear here: we're against the export of any waste! Because this was the biggest mistake the German waste disposal industry ever made. There wasn't enough reprocessing capacity for the Green Dot waste in the yellow bags at first, so it was exported to the markets in Asia. There's no doubt that this was a big mistake. But that doesn't justify lumping packaging together with microplastics, with marine waste in general, and then tarring everything with the same brush. This doesn't help us find a sensible, truly sustainable solution to this problem.

Question: How do things look when it comes to industrial waste collectors and sorters? Are these companies investing enough?

Lorenz: At the moment, the recyclers see no additional commercial benefit for investments in innovations. In fact, they'd probably have to invest a lot of money if they wanted to bring everyone in the industry up to the latest technological standards. This applies not only to plastics, but to the whole stream of recyclable material. In Germany, we're in a much better position in this respect because we privatised this sector early on. In other



countries, disposal and recycling is still the responsibility of the municipalities, which must invest in it themselves. But they're usually not financially capable of doing so. Investing in a modern recycling plant is very low on the agenda of most municipalities – if at all. In addition, many recyclers feel they've been neglected or badly treated over the years and when it comes to additional recycling, they therefore adopt the attitude "this time it's your turn". Let me give you another provocative example in this context. There are enough communities that save expensive oil and gas to run their power plants by burning waste and plastics to generate electricity. Why should they invest in a recycling plant? They would then be taking away their own fuel and would have to buy oil or gas. That may not be so important right now, because oil is relatively cheap. But we'll see other times again there as well.

Question: But recyclers are operating in an area where politicians are closely involved. They take part in tenders and apply for municipal waste disposal contracts. So, it would be easy to make certain conditions binding for such contracts, wouldn't it?

Schütte: At the moment, that only applies to Germany as a business location. In contrast, waste management systems throughout Europe are quite heterogeneous. If you ask about the owners of the waste disposal companies and who actually disposes of the waste, you'll quickly conclude that in very many cases public bodies still carry out the disposal themselves. And it's precisely these public bodies that aren't prepared to invest money in waste disposal, even though the same market economy mechanism should apply to them, of course. Namely, that you can separate and recycle a valuable material. But, as I've already said, first of all this requires investment.

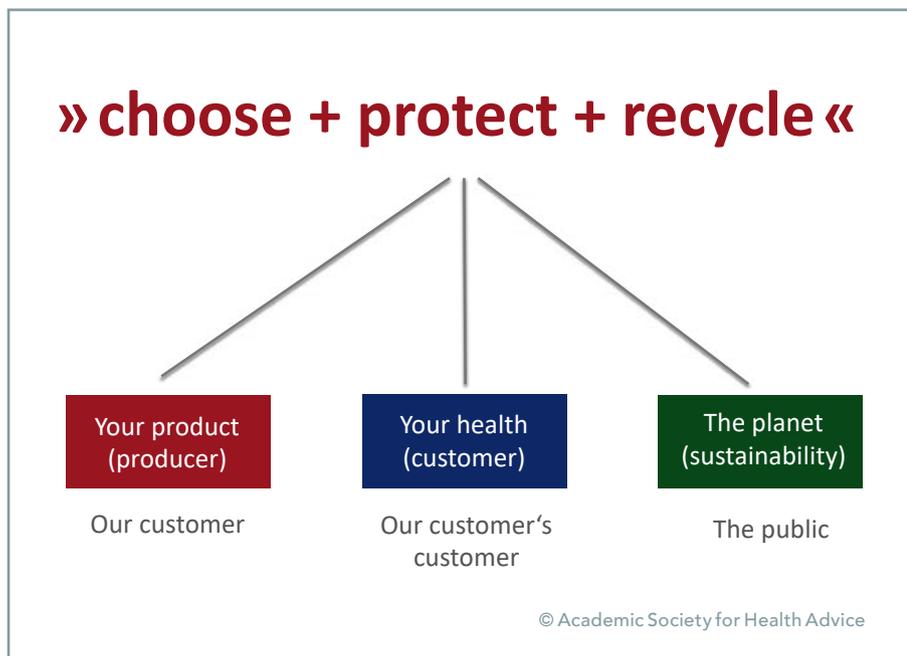
Lorenz: The decision of the Green mayor of Tübingen, Boris Palmer, to tax all forms of waste, including paper, is symptomatic of way the political decision-making process is also tending to go in this area. He needs about 100,000 euros in his budget to clean the city centre. To get it, he's introducing a tax that he knows, or should know, is unconstitutional. But as a politician you can assume that a lawsuit against it will take at least two years. So, he's introducing the tax on 1 January next year and for the time being

thority should be putting money into a modern recycling plant that can sort waste fractions cleanly. If Palmer and his treasurer were to calculate the tonnage available for this purpose in Tübingen and multiply it by a fair market value, they would soon realise that it would make good economic sense for public authorities to invest in this area.

Schütte: Mr Palmer could, for example, calculate that with a net revenue of 200 euros a tonne, only 500 tonnes of plas-

do you think we'd have a functioning collection system in Germany? How willing do you think households would be to participate?

What I find hugely disturbing about the public discussions on packaging is that we, as representatives of the industry, are quickly shouted down. We're not even given the opportunity to explain or offer our solutions. And we do have very good solutions. Our company, PACCOR, for example, is working together intensively with a leading European environmental service provider to find ways to really bring plastic material that has already been used into a recycling process for reusable material – in a manner that is sustainable, safe and in accordance with legal requirements. In doing so, we're taking great care to ensure that our solutions are also cost-effective. After all, we're talking about packaging for food products that should be reasonably priced. Many companies are currently working on this, but we all fail at the same point: when politics comes into play. I can remember the signing of the Circular Plastics Alliance last year, an alliance that was set up by the EU Commission. The alliance is intended to help ensure that from 2025 onwards, 10 million tonnes of recycled plastics are reused in the EU every year, in line with the EU Commission's plastics strategy. At the event, the Commission's vice-president Frans Timmermans praised the assembled industry representatives and the efforts they're making for recycling. He then left the hall to be photographed outside the door during a demonstration against plastics. So, Timmermans had changed his mind within the two minutes as he walked out. You don't know how to deal with something like that.



he's plugged the hole in his budget. With a levy that claims to be environmentally motivated, but in fact is only meant to put money into the town's cash-strapped coffers. Palmer is thus going one step further by taxing not only plastics or other supposedly environmentally incompatible packaging materials, but also paper. This is a total rip-off to relieve the pressure on the town's coffers. It completely ignores the fact that it will kill off entire economic sectors.

Instead of doing this, the local au-

thority would have to be collected, sorted and processed in order to get the required 100,000 euros. Then he wouldn't need to introduce a dubious tax and wouldn't destroy any branch of industry.

Lorenz: I'd like to add a curious thought on this. We all know the bottle collectors who hunt for the bottles that have a deposit on them. Suppose the consumer were to receive money for what he puts into the yellow bag, instead of having to pay for it – how quickly



Question: You've just mentioned the solutions that you've developed together with your partner companies. Do we understand you correctly: these are already cut and dried on a laboratory scale?

Lorenz: We have a joint project called 'Talking waste through digital recycling passports'. Other companies are also involved in this project. The aim of the project is to take away the anonymity of packaging waste. It's the reason why a large proportion of the waste is not used as a recyclable material. That's why PACCOR Packaging, together with Digimarc Corporation, has developed a digital watermark that for the first time gives packaging waste an identity: packaging waste gets a 'digital identity card' and becomes 'talking waste', and can then provide information about its entire life cycle. This digital watermark is applied directly to the surface of the PET. A digital barcode, which is in-

visible to the naked eye, can store information about the individual packaging, such as the material it's made of and what was packed in it. The information contained in the watermark can be used and retrieved along the entire value-added chain: starting with the production process and continuing along the entire supply chain, including the checkout in the supermarket, right up to disposal.

In a laboratory test last year, sorting removed all our packaging from a simulated waste stream. And this happened at a belt speed of three metres a second. We've since successfully carried out a trial at a speed of five metres a second. But we haven't spoken about this before now.

Question: What are your next steps?

Lorenz: At the moment, we want to turn 'Talking Waste' from a laboratory scale development into a representative pilot project. Such a practi-

cal trial would prove that packaging that is currently regarded as non-recyclable can indeed be fed into a closed reusable materials loop and that the recycle obtained would even comply with the guidelines for recycled materials in contact with foodstuffs.

Question: Where is the journey going? How would you describe the outlook generally?

Schütte: As I've said already, we want to bring plastic packaging into the loop, to make it reusable. There can be no doubt about the validity of the ecological need for reuse or recycling. We are offering sustainable ecological solutions where plastics have undoubted benefits, especially in providing protection and hygiene. But environmental issues need to be solved holistically and not ideologically. They have to be, and can be, solved. As a matter of principle, blindly exporting waste to the Third World has always been a mistake. Economy and ecology are not contradictory. Being successful economically means you're having to use resources sparingly and therefore you're automatically ecological.

Question: Gentlemen, thank you for this interview.

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