

NEW LIFE



NEW LIFE
From the throwaway economy
to the circular economy.

GERMAN FEDERAL
FOUNDATION FOR THE
ENVIRONMENT

Use instead of owning.

SURVEY

Focus on local
authorities.

PAH

Nothing to
worry about.



CREATING NEW THINGS - THOUGHTFULLY

With NEW LIFE, we aim to promote sustainable products and raise people's awareness of the need to consume consciously and in a way that saves resources.



EDITORIAL

Dear readers,

Environmental protection and the supply of raw materials are arguably the most pressing issues of our day and age and sustainability is the name of the game: In the light of climate change and its effect on people and the environment, a properly functioning economy is more important than ever and would also help ease the current crisis affecting raw materials. Also, it is high time for the politicians to put words into action and fully exploit the opportunities that exist to achieve sustainability and make sensible changes to regulations and adapt legislation in a forward-looking way.

The partners of the NEW LIFE initiative are among the pioneers of an ecological and economically promising scrap tire disposal scheme. Ever since it was founded in 2019, NEW LIFE has been committed to the professional recovery and recycling of end-of-life tires (ELT). The companies that are members of the scheme return the components of end-of-life tires to the material cycle, giving them a new lease of life and thus creating genuine added value for us and the environment. A sophisticated recycling process is used to turn them into rubber granules and rubber flour, which can be used as a valuable secondary raw material in new, long-lasting products such as surfacing for playgrounds and sports facilities, in asphalt on roads, or for anti-slip mats, as well as in sealing materials and insulation for buildings.

This is the second edition of NEW LIFE magazine. Following a successful start last year, we are proud to present new developments and progress in the field of sustainable scrap tire recycling to you in this issue, because the tire and recycling sector is really going places! Initiatives such as NEW LIFE are stimulating lively interaction between companies, associations, environmental organizations, the scientific community and politics, opening up new horizons and stimulating constructive discussion to make the disposal of used tires sustainable. In this issue, you will find an interesting interview with politicians, an article by the German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt), discover more about the current situation regarding scrap tire recycling in Germany and Europe, **and find out more about the numerous possibilities offered by scrap tires as a raw material.**

I hope you enjoy this issue!

Stephan Rau



Stephan Rau
Technical Managing Director
of the Association of the German
Rubber Industry (wdk)



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THE CIRCULAR ECONOMY



A MODEL FOR THE FUTURE

The circular economy – what is it anyway?

The principle of the circular economy is simple: make, use, recycle, reuse – a closed loop in which as little waste as possible is produced. In a perfect circular economy, a product that has been used once is returned to the material cycle, thus conserving increasingly scarce resources and making efficient use of them, so that they remain available to us, and the economy, for as long

as possible.

The idea of the circular economy is not limited to professional recycling, but aims to give renewable materials and materials the longest possible useful life.

After use, secondary raw materials are recovered from the products and can then be reused in new products.

Sustainability instead of the throwaway economy

Germany is still a throwaway society. Far too many products made from high-quality raw materials are only used once and then thrown away, generating tons of waste every year. Much of this waste is incinerated or dumped in landfills, while only a small percentage is recycled in a way that can be traced back. The „throwaway mentality“ is surely partially due to the fact that many

products are designed in such a way that they break quickly and need to be replaced.

Sustainable circular management, in contrast, aims to put products back into circulation as far as possible, avoid waste and use resources more efficiently. For decades,

consumers in Germany have been required to sort and separate their garbage – a good basis for a functioning circular economy. Paper, cardboard and glass are already successfully recycled and reused in recycled products. Awareness about how to act sustainably is growing in the German society,

and an increasing number of committed associations, organizations and research institutes are joining forces to protect the environment (see box). The circular economy model can make a significant contribution to saving resources.

GROWING THE CIRCULAR ECONOMY TOGETHER

There are already a large number of companies, initiatives and institutions that are committed to setting a good example and acting in the interests of environmental protection. Here are just a few examples:



Initiative ZARE

This initiative unites renowned and reputable scrap tire disposal companies and tire recyclers and retreaders.



Stiftung 2°

An initiative dedicated to promoting environmental protection and the sustainable use of natural resources.



AZuR Network

AZuR finds ways of generating an ecologically and economically sensible cycle.



Alfa Laval & Stena Recycling

This company is committed to the environmentally efficient recycling of heat exchangers, which aims to enable up to 100 % metal recovery.



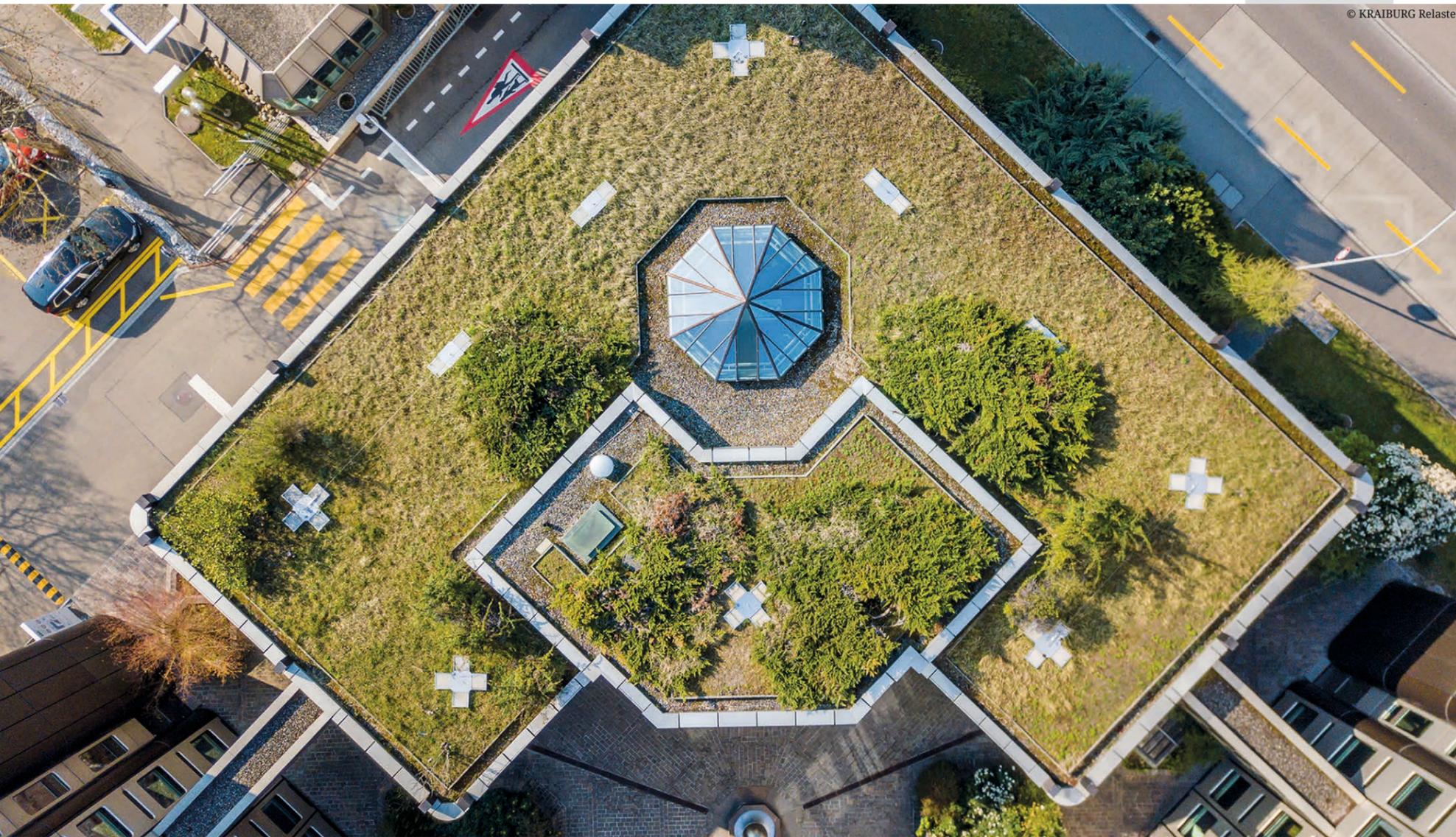
ConCirMy

ConCirMy is developing a „product configurator“ that takes the example of a car tire to make the effects a product has on the environment during its operating life transparent to consumers.



Kreislaufwirtschaft BAU

Association of the German building materials industry, the construction industry and the waste management industry, which has been promoting the circular economy in the construction industry since 1995.



© KRAIBURG Relastec

NATURAL ENVIRONMENTAL REGULATION USING GREEN ROOFS WITH SUSTAINABLE KRAITEC® BUILDING PROTECTION MATS MADE OF ELT MATERIAL

The sealing of the ground in inner cities with roads and buildings has accelerated over the years, causing it to become increasingly hot in cities, especially in the summer months.

This has prompted urban planners to increasingly create environmental compensation areas in the form of green roofs.

These green roofs consist of several layers, which first absorb the water during precipitation until the saturation level is reached. After that, the plants and substrates, which release the rainwater back

into the atmosphere by evaporation, come into play. This means that the green roof, in the broadest sense, fulfils the same function as topsoil. Another beneficial effect of the green roof is that it acts as a seal against temperature fluctuations and the service life of the roof cladding is increased. Due to the reduction in temperature fluctuations, the green roof provides reliable protection against unwanted heat in the summer months and loss of heat in the winter months. Thermal radiation is decreased, thus keeping the city air cooler.

However, the implementation of green roofs is also challenging in terms of structural engineering. Of course moisture and structural damage need to be avoided. KRAIBURG Relastec makes an important contribution in this respect, with its KRAITEC® building protection division. KRAITEC® has already gained a wealth of experience in the field of green

architecture on roofs and has developed high-quality and reliable building protection mats. KRAITEC® structural protection mats for green roofs are characterized by their high load-bearing capacity and can cope with all structural requirements made by modern green roof construction.

The special thing about these protective layers is the material they are made of. The mats consist primarily of end-of-life rubber from used tires or punching waste from industrial rubber products. Instead of disposing of it in landfills or incinerating it, KRAITEC® has developed processes that allow this material to be reused as a secondary raw material for a wide range of products.

This involves the starting products going through various manufacturing processes. Initially, granules of various grain sizes are produced from the raw materials. Depending on their intended use, these granules are then pressed into appropriate mixtures with the aid of a binder at elevated temperatures to form sheets or large bales.

The quantity of the various components in the mixture, as well as the degree of compression, give the materials the



© KRAIBURG Relastec

first desired or required physical characteristics and properties. In the case of rolled goods, the finished bales are then peeled into webs of the appropriate thickness after cooling. Depending on the intended application and product, further processing or finishing steps may follow. For instance, some products are corrugated in order to achieve the required impact sound insulation properties, or surfaces may be sanded and lined with fleece to ensure specific material compatibility. Protective mats produced in

this way provide at least the same, and often even better technical and physical properties than new products that would be used for the same application, and these upcycled products are completely recyclable at the end of their life cycle, meaning that these protective mats impressively meet all of the requirements of the circular economy.

Not only does the use of such materials in the planning of Green Cities guarantee that

raw materials are used sparingly and make an important contribution to sustainability, but also contributes significantly to cutting CO₂ emissions.

High-quality finished products made from recycled rubber granulate



KRAIBURG
RELASTEC

DAMTEC[®] Sound and vibration insulation
KRAITEC[®] Building protection sheets for protection and safety
EUROFLEX[®] Fall protection for playgrounds
SPORTEC[®] Sports hall floors and elastic layers

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IMAGE FILM - WHAT HAPPENS TO USED TIRES

CREATING NEW FROM OLD

The NEW LIFE initiative film shows motorists the wide range of options for recycling scrap tires.



What actually happens to used tires after they are discarded? How are scrap tires processed and what recycled products can be made from them? These questions are explored in the new film by the NEW LIFE initiative, which tells the story of a young man who gets his tires changed at a car repair shop. They offer to have his old tires professionally disposed of for a small fee, but what does „professional“ actually mean here? His curiosity is awakened and he embarks on a short fact-finding mission to find out more about the professional recycling of used tires.

The film vividly illustrates the recycling methods available, how tires are sorted and dismantled, how fine grinding works and what products are ultimately made from rubber meal: a huge range of products, such as anti-slip mats, impact sound insulation, playground flooring and decorative objects such as vases - the possibilities are almost unlimited!

Why isn't this potential tapped

into much more? The young man discovers that there are concerns about possible health hazards from the ingredients of the recyclate and talks to experts. Prof. Ulrich Giese from the German Institute for Rubber Technology explains that the potentially hazardous polycyclic aromatic hydrocarbons, or PAHs, are ubiquitous in our cities. Even barbecuing produces PAHs through combustion of fat, but the risk of ingesting them when using recycled products is no higher than in the urban environment in general, according to Giese.

Adrian Mork, responsible for sustainable development at the district government in Arnsberg, explains how scrap

tire recyclate can be used in practice, for example as a material for playground flooring and accessories.

The new film produced by the NEW LIFE initiative is aimed at everyone who want to live sustainably and contribute to a recycling economy that really works by disposing of used tires properly.

BY THE WAY:

You can watch the film online at:

<https://youtu.be/MABQxy8A8P0>



SCRAP TIRE RECYCLING- FACTS & FIGURES

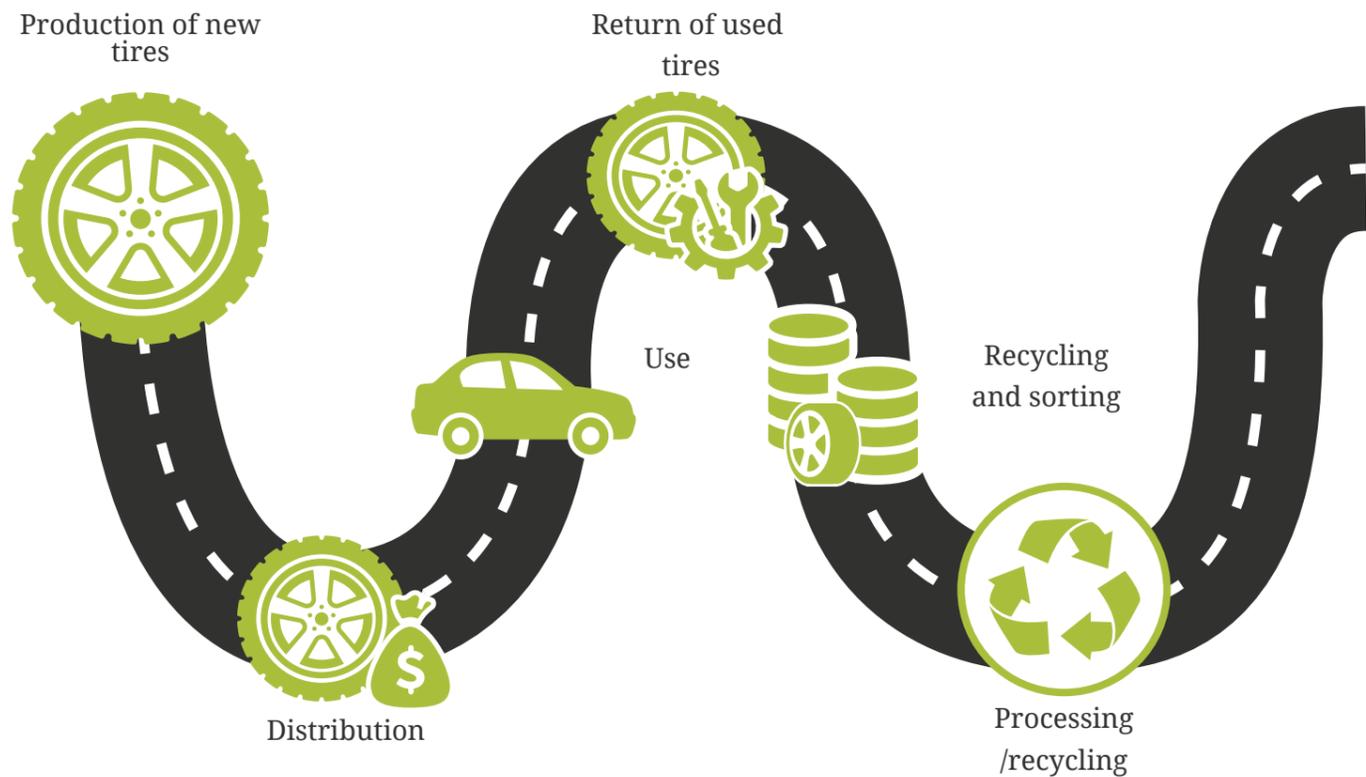
SCRAP TIRE DISPOSAL

With around **192 Million tires** currently in use in Germany, about **50 Million** are replaced every year, resulting in around **600.000 Tons of scraps tires** being sent to waste disposal plants each year in Germany alone. Europe-wide, the „**tire waste**“ amounts to about **3,4 Millionen tons**.

Sources: adac.de/rund-ums-fahrzeug/ausstattung-technik-zubehoer/reifen/reifenkauf/altreifenentsorgung

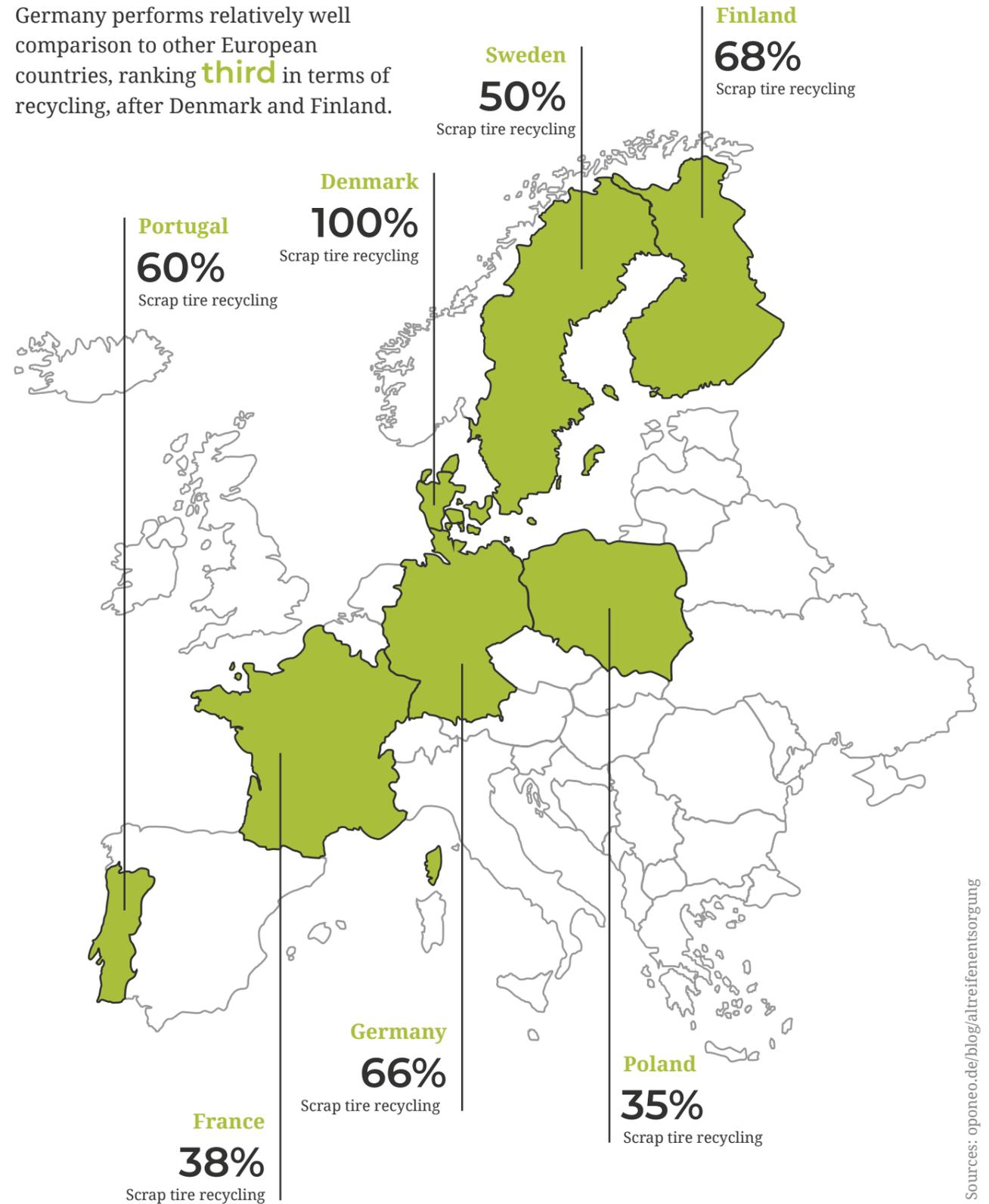


THE LIFE CYCLE OF TIRES



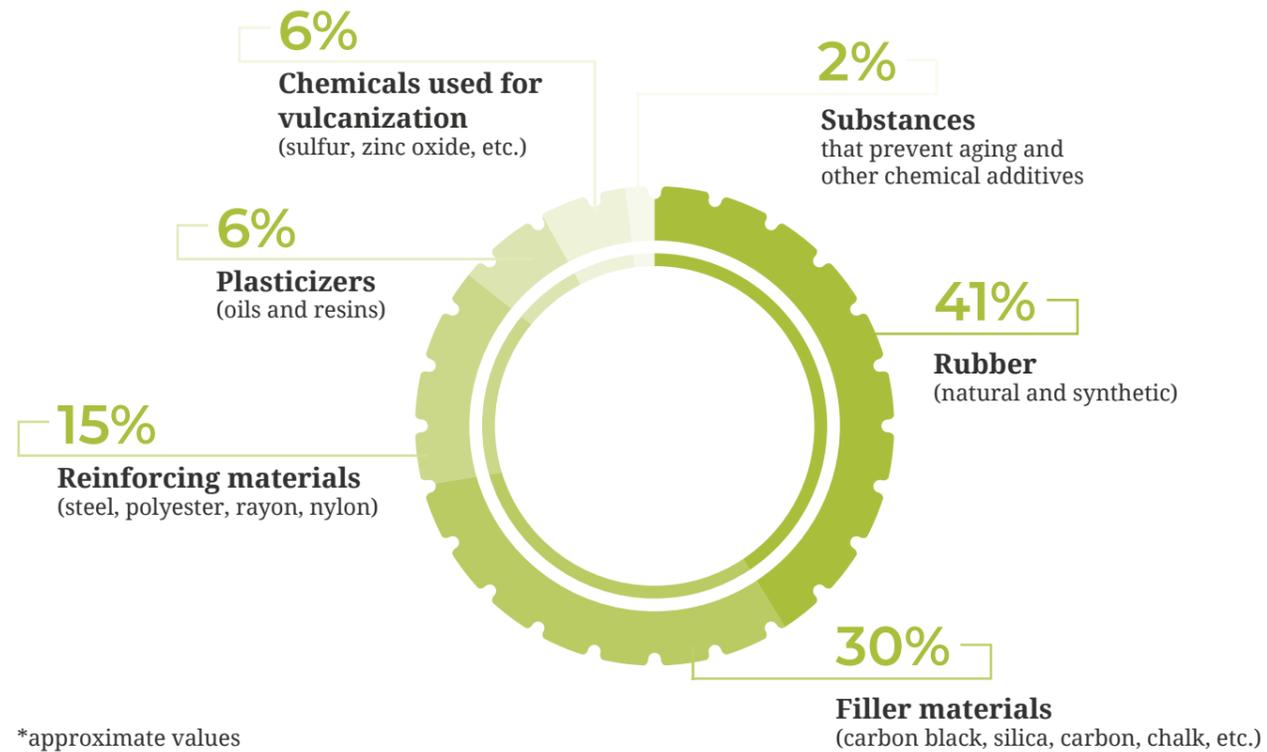
SCRAP TIRE RECYCLING IN EUROPEAN COUNTRIES

Germany performs relatively well in comparison to other European countries, ranking **third** in terms of recycling, after Denmark and Finland.



SCRAP TIRE RECYCLING- FACTS & FIGURES

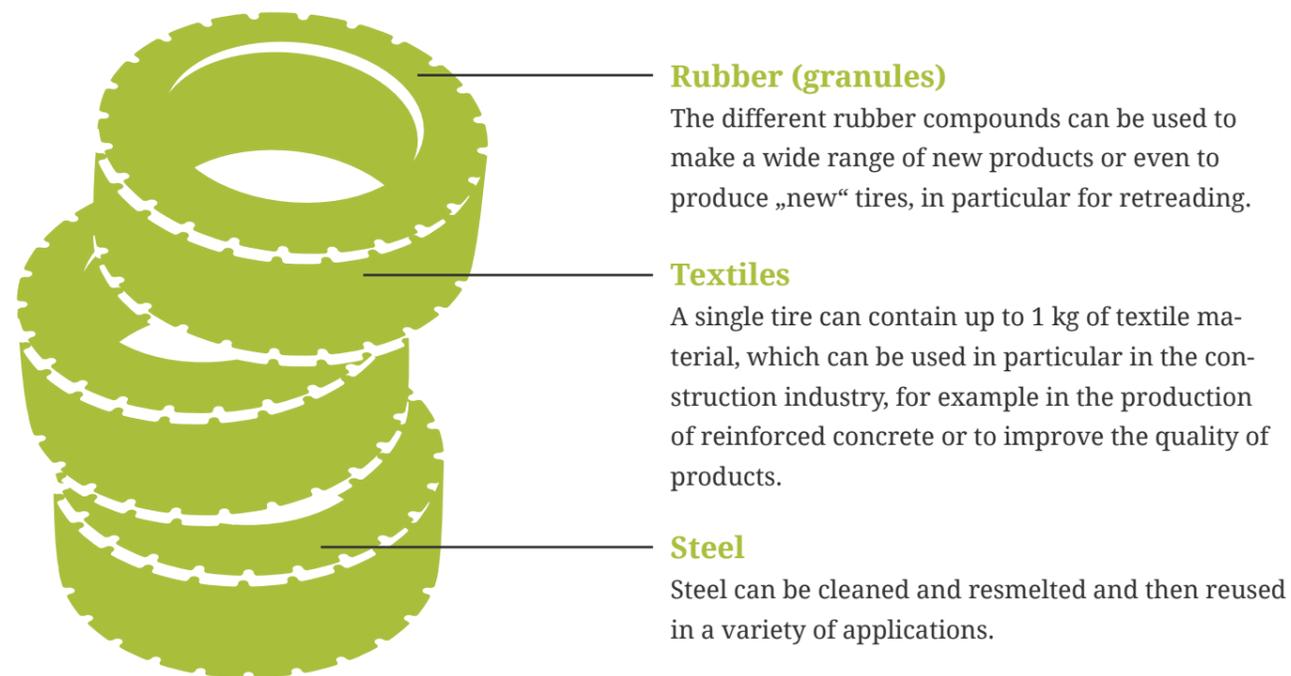
TIRE COMPONENTS*



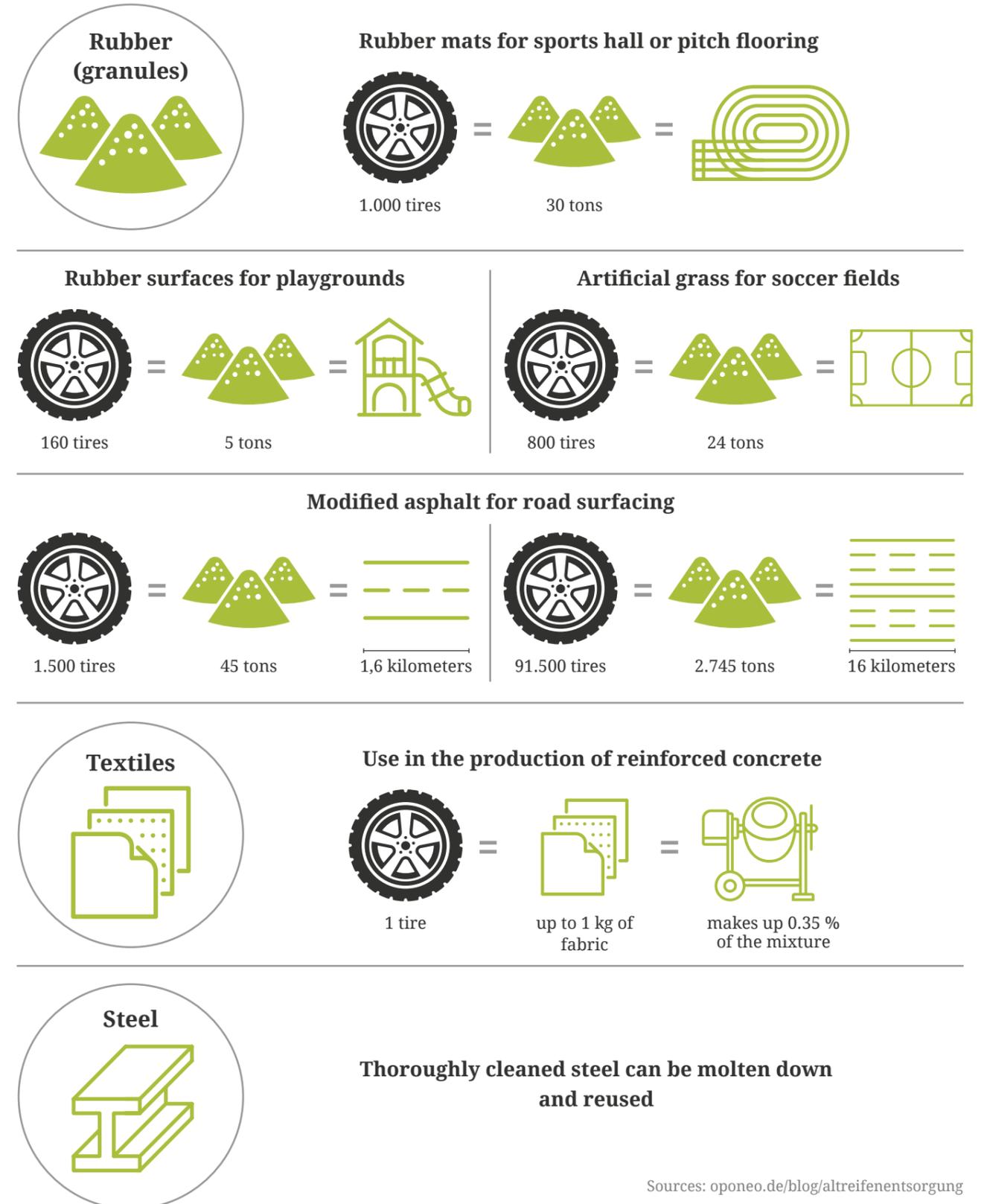
*approximate values

Sources: continental-reifen.de/autoreifen/reifenwissen/reifen-grundlagen/reifenmischung

MATERIALS RECOVERED FROM SCRAP TIRES



RECYCLED PRODUCTS



Sources: oponeo.de/blog/altreifenentsorgung

BRINGING THE STAKEHOLDERS TO THE TABLE

The critical importance of protecting the environment has reached the permeated society, but there are still a lot of gaps in our knowledge and hurdles impeding the path to achieving a functioning „circular economy.“ A crucial factor for establishing a circular economy is the political landscape. Björn Simon, from the conservative CDU/CSU block, is a member of the German Bundestag’s Committee on the Environment, Nature Conservation and Nuclear Safety, who has been working on the circular economy and recycling for several years. In our interview, he discusses the success stories, goals and potential of policies relating to establishing a sustainable circular economy.



Björn Simon (CDU/CSU); Member of the German Bundestag; member of the Committee on Transport and Digital Infrastructure and the Committee on the Environment, Nature Conservation and Nuclear Safety.

Editor: Mr. Simon, you are a member of the German Bundestag’s Environmental Committee. What do you see as the greatest challenge facing recycling and the circular economy?

Björn Simon: The circular economy is the solution to the problem of scarcity of resources on our planet, which is already an issue in some cases and is becoming increasingly acute. The linear system of „make, use, throw away“ is becoming increasingly obsolete. In Germany, as a country with relatively few raw materials, many people are already aware of the potential of the circular economy, but a major rethink

is still called for in many areas.

Editor: How is the circular economy being promoted by German politicians?

Björn Simon: In recent years, we as politicians have managed to move the focus of political discussion to the circular economy and its ongoing development. We have made it clear, both in political arena as well as in the general public, that the issue of protecting the environment is inextricably linked to the circular economy and recycling. The focus on recycling and waste management plays a key role in the CDU/CSU parliamentary group. As the rapporteur

for this subject, I am often the person my colleagues contact, as we are all aware of how important this issue is.

Editor: What achievements have you made to date?

Björn Simon: We have been able to develop the circular economy with numerous promising and successful legislative initiatives in the last few years, and this remains an ongoing process. In the current legislative period alone, we have amended the Recycling Management Act, the Battery Act and the End-of-Life Vehicles Ordinance, among other things, and we have also implemented the European Union’s

requirements banning single-use plastic products. With all of these laws and ordinances, we have ensured that the dynamic development in closing material cycles continues thanks to ambitious rules on the recovery of raw materials. Our endeavors have made us a global pioneer in many areas of the circular economy.

Editor: The interim results of a NEW LIFE survey on the role of the circular economy in local authorities are sobering: The circular economy has yet to become a reality in more than half of the local authorities surveyed. What can policy makers

do to raise the profile of recycling in local authorities?

Björn Simon: It is very disappointing that so many authorities are apparently not yet as focused on the topic of the circular economy and recycling as we would like. In my opinion, policy makers are first and foremost responsible for creating the basic conditions to make the circular economy and recycling possible in the first place and to move the dial forward. We have taken the first crucial steps in this direction with the amendment of the Closed Cycle and Waste Management Act. Irrespective of this, however, I believe that the public sector has an extraordinarily important part to play in the development of the circular economy in Germany.

Editor: How can employees of local authorities get comprehensive information about the benefits of recycling?

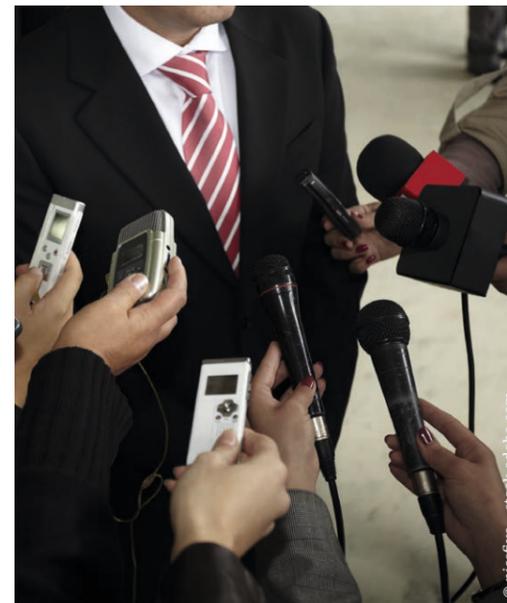
Björn Simon: In order to promote recycling in local authorities, I think it is particularly important to get all the players

round the table. By that, I mean not only council employees, but also representatives of the recycling industry and suppliers of recycled products. There needs to be a well-founded and sustained discussion here, focusing not only on what is available, but also on the specific needs of local authorities.

„THERE NEEDS TO BE A WELL-FOUNDED AND SUSTAINED DISCUSSION HERE.“

Editor: Could examples of best practice be drawn on and transferred into real-world application by local authorities?

Björn Simon: Yes, definitely! I think it is essential for local authorities to network and communicate with each other, even beyond the county and state level, to discuss and share their experiences with recycled products. I am personally in direct contact with local authorities, districts and municipal utilities and am happy to pass on examples of best practice.





Editor: Current research shows that there is hardly any leakage of harmful PAHs from products made from recycled tires, but there is still a great deal of confusion on this topic. Should the legal limits on PAHs be adjusted to allow for pragmatic recycling of used tires?

Björn Simon: Here we are dealing with a fundamental conflict of objectives that we encounter time and again in the circular economy. On the one hand, we want to promote recycling, while on the other hand, we want to reduce pollutants in the process as well as in the product itself, and ultimately eliminate them completely. In order to mitigate this conflict of objectives, we need to re-evaluate the relevant framework conditions, but changes to limit values are always a sensitive issue, which always

require in-depth, thorough examination before they can be implemented.

Editor: What is your assessment of the potential of ELT as a secondary raw material for projects by public authorities, such as for use as a building material for playgrounds or as an asphalt additive?



Björn Simon: There is, of course, immense potential in these areas. Local authorities and the entire public sector are the most important customers for floor coverings. It's a good thing that we have the expertise and the ideas for to use ELT sensibly in this field here in Germany.

„THERE IS, OF COURSE, IMMENSE POTENTIAL IN THESE AREAS.“

Editor: Cities and local authorities have an opportunity to actively impact sustainability. Public authorities could, for example, switch their vehicle fleets to retreaded tires. Do you think it would make sense to make such requirements mandatory? Would a political framework be required to ensure that materials are reused by local authorities across the board?

Björn Simon: I am generally sceptical of mandatory requirements. For example, there are always instances in which mandatory requirements can have a negative environmental



impact, or the relevant bodies may face insurmountable or impractical obstacles. However, in the amendment to the Closed Cycle and Waste Management Act that was passed recently, we have ensured that products containing secondary raw materials are treated the same as primary raw materials, at least in tenders, which is an important first step.

„I AM GENERALLY SCEPTICAL OF MANDATORY REQUIREMENTS.“

Editor: Companies in the recycling sector are confused and there is a lack of planning security. How could the government give these companies greater security and help them innovate?

Björn Simon: To counteract this uncertainty, I feel it is very important to improve networking between the stakeholders involved, i.e. manufacturers, recycling companies and customers. In this respect, I see it as my task - and that of all political levels - to maintain intensive interaction between the parties involved in order to discuss the necessary changes to the law at an early stage. In this context, there are often calls for political specifications of quotas for the use of secondary raw materials. This may indeed make sense for certain products, but as long as they are more expensive than the primary material, such quotas need to be required throughout the single European market, at the very least.

Editor: Everyone is talking about the circular economy. Do you have any good news for us, in conclusion?

Björn Simon: Germany is in a very good position in international terms. We are a role model in many areas when it comes to a practical and pragmatic circular economy. As the responsible rapporteur for the CDU/CSU parliamentary group, I have been working on the topic of waste and recycling management for a good three years now, and have been able to see for myself the enthusiasm with which the circular economy is developing in every aspect of our lives. This makes me very optimistic for the future. I would like to continue my political work in this area in the years ahead and invite all interested stakeholders to enter into a dialog with me.

„THIS MAKES ME VERY OPTIMISTIC FOR THE FUTURE.“



RUBBERIZED ASPHALT: GREAT POTENTIAL FOR THE CIRCULAR ECONOMY

Blending waste crumb rubber from end-of-life tires (ELT) into asphalt and bitumen is a tried and tested technology that has been around for many years. Developed in the USA in the 1990s, the technology is now much more advanced, with millions of miles of road now having been surfaced with it. In the EU,

however, this sustainable technology is still in its infancy. This is probably due to resistance to change in the asphalt and road construction industries, as well as the authorities responsible for road construction tenders. But let's begin by taking a look at the technology and the terminology.

What is asphalt?

Asphalt consists of approximately 95% aggregate and 5% binder, usually bitumen, the thick, black residue from oil refining that is characterized by its high viscosity. The binder bonds the stone aggregate and gives the road its characteristic black color.

Modified asphalt requires less maintenance

For over twenty years, binders for road construction have increasingly been modified by the addition of virgin polymers. One of the most common such polymer is SBS (styrene-butadiene-styrene), a thermoplastic elastomer. When added to the binder in a ratio of 5-10 %, this polymer improves road surface quality in numerous ways. Firstly, it prevents rutting, i.e. the deepening of the road surface along the lane that is often seen on new roads. Secondly, it prevents cracking, which is a problem in cooler climates due to frost, as the modification of asphalt and bitumen broadens the temperature range within which roads are elastic and can thus resist the effects of heat and cold, significantly reducing maintenance costs. The additional cost of asphalt modification is more than offset by the reduced maintenance costs.

Noise reduction

In addition, modified asphalt enables the production of open-pore asphalt mixtures. These asphalts are particularly good at reducing road noise levels. Traffic noise has been shown to be harmful to human health, triggering stress and other diseases. There is conclusive evidence that noise pollution from road traffic is linked to the incidence of cardiovascular disease and diabetes, for example. All EU member states now have action plans to reduce traffic noise, in which open-pore asphalt plays an important role.

Crumb rubber from scrap tires can replace virgin polymer in modified asphalt

Asphalt modified with virgin polymers such as SBS is thus a tried and tested technology that offers significant benefits in terms of both maintenance costs and noise reduction. The flip side,

however, is that the production of these polymers has a high environmental impact due to its use of limited resources. This is where the sustainable alternative - crumb rubber made from scrap tires - comes into play.

Adding recycled crumb rubber - usually smaller than 1 mm in size - instead of virgin polymer, can achieve the same beneficial properties in terms of rutting, crack prevention and noise reduction.

Tire recycling plants in the EU process 1,364,000 tons of scrap tires each year, producing approximately 1 million tons of recycled rubber granules and powder annually. The use of a significant proportion of this volume as a substitute for virgin polymer would be 100% compliant with the EU's Circular Economy Action Plan (CEAP). Using recycled rubber from scrap tires

as a substitute for imported virgin polymer, most of which is imported, could not only reduce greenhouse gas emissions, but also reduce the amount of scarce raw materials imported into the EU.

Green public procurement

The increased use of recycled modifiers in asphalt and bitumen can only be successfully implemented if sustainable thinking is adopted in the road construction industry when it comes to tenders - especially by

the authorities responsible for road construction tenders - or if appropriate rules are put in place by the EU or national bodies.

Green procurement in road building is a relatively easy undertaking to implement, and one that allows the EU and its member states to promote sustainable practices quite easily, as it is a proven and well-documented technology. The circular economy is the mining industry of tomorrow, except that rather than extracting even more of the earth's already limited

resources and raw materials, the new concept of raw material extraction relies on the sustainable use of recycled materials. Rubberized asphalt made with scrap tires is one of the most obvious solutions - and is even recyclable itself!

GENAN RUBBER POWDER

- IDEAL FOR RUBBER MODIFICATION OF ASPHALT AND BITUMEN IN ROAD CONSTRUCTION



Rubberized asphalt can be used to avoid ruts and cracking - while reducing traffic noise and cutting maintenance costs



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BLOGGERS MAKE A DIFFERENCE

HOW WE CAN CHANGE THE WORLD TOGETHER

I'm Christoph Schulz, a student of environmental sciences, author and operator of the sustainability blog CareElite. For many years now, I have been actively working to protect our planet and all the creatures that roam it, but of course this hasn't always been the case. After training as a banker and studying multimedia marketing, I was initially quite surprised to discover that I lacked a real, long-term goal in life. What did I want to achieve? What did I want to stand up for, and what is my mission in life?



© Christoph Schulz



I found the answer during a backpacking trip to Sri Lanka. On one of the many plastic bottles among the tons of single-use garbage, there was - still easily legible - an expiration date of 1986! I was amazed at how long plastic lasts. After doing a little bit of research it was clear: it lasts forever! And our day-to-day behavior as well as how we use plastic is the root of the problem. So I set to work cleaning up the trash right away, while I was still there. More and more helpers joined me, until the beach was clean. It was a great feeling, which shows that it all it takes is for people to make a start. I also realized that it isn't enough to just hope that someone else will save the planet, because if you want change, you have to be part of the solution to the problem yourself. That's why I've organized and supported many more CleanUps since then - making my life as plastic-free and sustainable as possible, and keeping my personal waste to a minimum.

That was also when I started my blog CareElite.de to show more people how easy it is to live in a more eco-friendly way. The core of my work is our wonderful community of environmentally conscious people, where we all learn from each other. It's as much about preventing waste as it is about getting rid of the waste we have already produced, all driven by the goal of leaving the planet a better place than we found it.



BY THE WAY:

For further information and everything about the blog, visit:

careelite.de





SAFE & SUSTAINABLE – PRODUCTS AND SOLUTIONS FROM REGUPOL BSW GMBH

If you are looking for products and solutions that offer safety while also being sustainable, then you have come to the right place at REGUPOL!

REGUPOL BSW GmbH was founded in 1954 and processes recovered and recycled, high-quality plastics. For example, REGUPOL has become one of the leading suppliers of seamless fall protection flooring, fall protection slabs and other elastic safety elements for a wide variety of application locations - indoors and outdoors.

Safety first

Playgrounds are places of interaction and movement. Wherever boundaries are tested playful, REGUPOL protects what really matters. REGUPOL fall protection flooring is first and foremost one thing: tried and tested, reliable playground flooring.

For REGUPOL, children’s safety comes first, especially when the children climb to great heights on climbing frames. For decades, REGUPOL fall protection has stood for the highest possible tested and certified quality. The company manufactures fall protection flooring that makes children’s hearts beat faster with its color, shape and feel.

Aiming high with safety

Climbing walls are even higher than climbing frames on playgrounds, which is why safety systems and the watchful eyes of the belayer are the be-all and end-all in a climbing hall, true to the motto: „Climb high - stay safe“. The surface layer of our REGUPOL climbing hall floors is non-slip and gives the belayer a firm footing, allowing them

to act and belay at short notice. But mistakes can happen and climbers can falls even when starting the ascent of a climbing wall. REGUPOL climbing hall flooring can help minimize the consequences of such a fall, whether for indoor or outdoor climbing walls.

Protection in shooting ranges

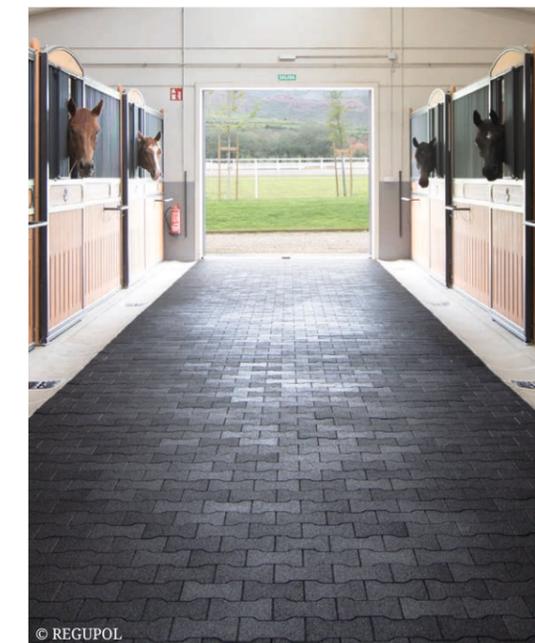
While they need to be avoided at all costs in the field, mistakes may occur when training with weapons in a shooting range. Missed shots can cause serious damage, and the safety of people in the facility is paramount. REGUPOL safety floors and elements absorb bullets or guide them towards the bullet trap safely.

Safe fitness training

REGUPOL fitness floors also go easy on your joints. Their elasticity relieves your entire body while training, and REGUPOL fitness floors also reduce the noise from equipment and people exercising. In addition, our floor coverings for fitness centers protect the substrate - for example from falling dumbbells

Safety for animals, too

Your horse is safe with REGUPOL, because our permanently elastic, durable floor coverings for horse stables are soft, insulating and non-slip, providing a first-class surface - for a firm, safe footing and absolutely smooth running. Horses that walk, lie or stand on REGUPOL flooring are more relaxed and have a better sense of well-being, as injuries, inflammations and excessive loads are reduced, while their hooves are protected and don’t wear out, even for unshod horses. horses do not wear out.



Safely & sustainable – laying floors with REGUPOL

As different as REGUPOL products may be, they nevertheless all have one thing in common: they provide safety and are extremely sustainable. This is a priority issue for REGUPOL. Most of REGUPOL's products have a recycled material content of over 20 percent, and many even over 80 percent. These products have been granted the „Recycled Product“ (over 20%) or „Top Recycled Product“ (over 80%)

label by the NEW LIFE initiative. These labels help in procuring high-quality products. Products awarded with these labels stand for sustainability and are also durable and can be used for decades, in some cases.

„Let's change“ is the slogan of REGUPOL's sustainability strategy. In 2020, REGUPOL was awarded the NRW Environmental Business Prize for its particularly environment-friendly and resource-saving approach. REGUPOL sees this award as an appeal to us all to explore new

avenues, to act in a way that protects the environment and to help shape changes in the marketplace.

„We can't just wait and see any more, we have to make a change now. We are happy to use resources sparingly, because we will have no choice if we want future generations to inherit a world worth living in. As a family business, this has been our approach for over sixty years,“ explains REGUPOL BSW GmbH.



FOR GREATER SUSTAINABILITY

REGUPOL products are made from recovered and recycled high-quality plastics. They are used worldwide as sports hall and fall protection flooring, anti-slip mats for load securing, impact sound insulation and vibration insulation, as well as protective and separating layers.

It isn't just their high content of recycled material, but also their high durability that make our products extremely sustainable.

You can count on **REGUPOL**.

www.regupol.com



RECYCLING ON SOCIAL MEDIA

SUSTAINABILITY ON SOCIAL MEDIA – AN AREA WITH GREAT POTENTIAL

The topics of sustainability and recycling are increasingly in the social spotlight, a fact that is reflected in social media, as there are lots of users, media creators and companies who deal with environmental topics and exchange ideas. The NEW LIFE initiative is now also on LinkedIn.

Almost half of all Germans are active on social media. The German Federal Statistical Office has calculated that 89 percent of Internet users between the ages of 16 and 24 communicate with their friends on social networks, and 73 percent of 25 to 44-year-olds. People over 45 are less active on social networks. According to an Online Study conducted by ARD & ZDF in 2020, WhatsApp, Instagram and Facebook top the league of the most popular social media platforms in Germany. The international jobs portal LinkedIn is also attracting more and more users.

Raising awareness of sustainability

Thanks to the large number of users, social networks have immense potential to create widespread awareness about sustainability and to tell people about the importance of recycling. Private individuals, initiatives, companies and the media recognized this a long time ago,

and more and more people are using social media platforms to raise awareness of recycled products, campaigns and sustainable start-ups. Companies let their followers know that they will be switching to sustainable packaging in future on LinkedIn, for example, and the media use their reach to report on recycling initiatives. More and more people are also joining forces on social networks in groups that are dedicated to recycling, sustainability and waste prevention.

Network with NEW LIFE now

This development opens up a lot of new opportunities for knowledge sharing and public relations. The NEW LIFE initiative is now also on LinkedIn, where NEW LIFE tkeeps users updated about the environmental benefits of recycled ELT material and showcases the wide range of high-quality products that can be made using ELT.



Users who follow NEW LIFE on LinkedIn will receive up-to-the-minute news about the initiative and information on how sustainability can be actively molded.

BY THE WAY:

Keep up to date! Follow NEW LIFE on LinkedIn now:

[linkedin.com/company/initiative-new-life/](https://www.linkedin.com/company/initiative-new-life/)



Sources:
[1] <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Einkommen-Konsum-Lebensbedingungen/IT-Nutzung/Tabellen/internetaktivitaeten-personen-alter-ikt.html>
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WHAT DO BANANA CHIPS HAVE TO DO WITH SCRAP TIRES?

Polycyclic aromatic hydrocarbons (PAHs) are a group of several hundred chemical compounds that are formed by the pyrolysis of organic material, i.e. the combustion of compounds that contain carbon in the absence of oxygen. In principle, we encounter PAHs everywhere, as they are formed by smoking cigarettes, barbecuing or smoking meat, for example, and they occur naturally in coal and crude oil. They are also found in rubber products, which PAHs are introduced to in plasticizers, and in particular by the reinforcing filler carbon black. So PAHs are, in principle, also present in new tires and recycled products made from scrap tires. NEW LIFE talked to Dr. Hoyer about this.



Dr. Stefan Hoyer is a research associate at the Institute for Lightweight Structures at Chemnitz University of Technology and conducts research in the field of extrusion technologies and recycling.

PAHs bound in the material – a hazard or cause for panic?

To pose a risk to humans and the environment, the PAHs need to be released and absorbed by the human body. In 2009, the German Federal Institute for Risk Assessment (BfR) stated, „to assess the health risk, it is not so much the PAH level in a product that matters, but rather the amount that is released on skin contact and absorbed by the body.“ [1] In the case of burnt food or tobacco smoke, there is no doubt that PAHs can enter the body and affect it. For tires and products made from scrap tires, however, the situation is different. Here, the PAHs are largely bound in the material and hardly escape under normal conditions, for instance on contact with the skin.



Measurements conducted by the Chemnitz University of Technology show that such small quantities of chemicals are outgassed from products made from scrap tires that even the Blue Angel requirements are met. Migration on skin contact, i.e. the transfer of PAHs to the skin, is also very low. For the eight relevant PAH compounds in the European legislation, no migration at all could be measured.

Do the regulations need to be amended?

Why, then, do PAHs still pose a problem when it comes to recycling scrap tires? The main reason is that the current regulations do not take the release of PAHs through migration or emission into account, but only the actual content in the material. Also, these measurements are usually based on the use of an aggressive solvent, which extracts almost all of the PAHs that are actually firmly bound in the rubber, a scenario that is irrelevant to normal use and is therefore hardly a suitable way of assessing the risk of using such products. The guiding principle of the legislation was preventive

protection of humans and the environment. Limiting the PAH content seemed appropriate, even though definitive scientific evidence that such products actually pose a health risk has not been presented. While this is welcome in principle, the recycling industry and the objective of a sustainable circular economy are also worth protecting. In this respect, a prioritized review of the suitability of the PAH limits that have been in force since 2015 as a preventive

measure would be urgently called for. This requirement is also enshrined in the REACH regulation itself: „By 27 December 2017, the Commission shall review the limit values [...] in the light of new scientific knowledge, including on the migration of PAHs from the articles referred to therein, as well as on alternative raw materials, and amend these paragraphs accordingly, if appropriate.“ [2] A passage that can still be found now, in July 2021 - unchanged!



PAHS: NOTHING TO WORRY ABOUT

Meanwhile, the vast majority of existing studies on the subject conclude that recycled products from scrap tires are not a cause for concern. Nevertheless, the limits remain unchanged. According to the responsible regulatory authorities, there are still shortcomings when it comes to the scientific penetration of the correlation between PAH content and migration. A final evaluation with regard to an amendment of the applicable regulations has yet to be made.

Lack of clarity on PAH content blocks the path to a circular economy

Meanwhile, the recycling industry is facing challenges that threaten its very existence. The situation regarding the discussion on PAHs, which is unclear to consumers, and in particular the often undifferentiated and polemic reporting in the media, are leading to uncertainty and fear-driven rejection of recycled products made from scrap tires, thus inhibiting the urgently needed growth in the recycling of scrap tires and even leading to a decline in individual market segments that have so far made a significant contribution to a sustainable recycling economy.



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No more banana chips?

So, how dangerous are products made from scrap tires and is there cause for concern about the environment and human health? According to the current state of science and research, only very small amounts

of PAHs migrate from scrap tire recyclates into water or the skin, and emissions to the air are also very low. The measured concentrations are usually far below the relevant limit values and often even below the respective



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determination limits. In general, therefore, experts do not consider the results of measurements to be a cause for concern (see [3-7]). Typically, skin contact by an adult with a floor mat made of recycled scrap tire material over a 24-hour period

would, for example, be equivalent to eating 540 g of banana chips, 270 g of ham/salami, and 135 g coconut oil [7], so, based on current knowledge, there is no reasonable cause for concern. Associations such as the wdk or the ZARE initiative

would therefore welcome the introduction of measurement methods that take the truly relevant factors of migration or emission into account, but the appropriate legal basis for their application is still missing.

BY THE WAY:

The ALARA principle is also frequently mentioned in the context of PAH content. The abbreviation **ALARA** stands for „As Low As Reasonably Achievable“. In the scientific and research community, the ALARA principle is an internationally recognized principle for avoiding excessive radiation exposure, as humans' exposure to radiation should be kept as low as reasonably achievable.

Sources:

- [1] Bundesinstitut für Risikobewertung (BfR). PAK in verbrauchernahen Produkten müssen so weit wie möglich minimiert werden. Aktualisierte Stellungnahme Nr. 025/2009 des BfR vom 8. Juni 2009
- [2] Anhang XVII der Verordnung (EG) Nr. 1907/2006, Nummer 50, Spalte 2, Absatz 8
- [3] U.S. EPA & CDC/ATSDR. Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report: Part 1 - Tire Crumb Characterization (Volumes 1 and 2). (EPA/600/R-19/051). U.S. Environmental Protection Agency, Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry. 2019
- [4] Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail. Scientific and technical support on the possible risks related to the use of materials derived from the recycling of used tyres in synthetic sports grounds and similar uses. November 2018

- [5] Europäische Chemikalienagentur (ECHA): ANNEX XV report –An Evaluation of the Possible Health Risks of Recycled Rubber Granules Used as Infill in Synthetic Turf Sports Fields. 2017
- [6] Robert Moretto. Environmental and health evaluation of the use of elastomer granulates (virgin and from used tyres) as filling in third-generation artificial turf. 2007
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Designer objects made of rubber granulate: representative, classic and simply stylish.

© Conradi+Kaiser

FOR A VIBRANT SOCIETY

The fact that the quest for sustainability has pervaded every area of our society and that solutions for real-life implementation are being found is a crucial milestone for the future of our society as well as future generations.

More and more customers are consciously opting for

sustainable, long-lasting products that protect the environment - and it's a growing trend.

Giving scrap tires (ELT) – a new lease of life!

Sustainable action has been a priority issue for Conradi+Kaiser ever since the company was

founded. The company uses rubber granulate from scrap tires (ELT) as a raw material in the production of a huge variety of outdoor products that make life safer and more enjoyable. The manufacturer from Rhineland-Palatinate, in southwestern Germany, covers basic areas such as flooring systems for playgrounds, fitness studios,



Paving slabs made of ELT: they come in a variety of shapes that suit any style of the surrounding buildings, from conventional to modern.



The fall protection slabs made of ELT cover the ground under playground climbing frames and keep children on seesaws, swings and slides safe.

animal husbandry, car protection products and public space design, but anyone who thinks of scrap tires simply in terms of anthracite-colored products will be amazed when they see the product range. The ELT base is coated with special protective and colored layers that allow colorful accents to be added to any project. The corporate culture is defined by a holistic sustainability strategy, with a focus on climate-neutral production, saving resources and environmentally friendly production processes being actively promoted, and investments being made in new technologies, digitization and automation.

Making sustainability tangible - want a few examples?

Anyone who experiences Conradi+Kaiser products in use

will recognize the important contribution that this family-owned company has made to a vibrant society: life here is always characterized by safety, liveliness and sustainability.

„Wow! What a welcome!“

Representative vases made of ELT decorate hotel complexes and company offices and really make you go „wow!“ The vases made of high-quality rubber granulate are veritable eye-catchers and are true design highlights.

„OK, whoever can do more pull-ups wins!“

Teenagers really like competing, but recreational athletes and families also enjoy the challenge of outdoor fitness equipment. Fitness areas are seen increasingly frequently in city parks, recreational areas and public

squares. In all these places, C+K flooring systems made of recycled rubber granulate cushion and protect athletes, because the flexible material is easy on joints and cushions impacts.

“Who’ll be first to the slide? On your marks, get set, gooo!”

Everyone can imagine the sight of playing children, on school playgrounds, in day care centers and on public playgrounds, people can play, romp and laugh to their heart’s content on C+K fall protection slabs.

“So glad you’re all here! Here’s to an amazing evening!”

When the veranda becomes an extended living room in the summertime, families and friends get together for dinner or

to celebrate. Patio flooring made of sustainable ELT material insulates from below, retains heat, and incidentally minimizes the risk of injury from tripping, for small children or senior citizens, for example.

“My horse is in really good hands here!”

In animal husbandry, sturdy solutions that can withstand heavy loads, while providing the animals with a secure grip are called for. Special paving stones made of rubber granules, for

example, are practical systems for paths, stables and washing areas.

„Pretty tight here! Can I make it around the bend?“

Narrow driveways can be made safe with edge protection made of recycled rubber granulate, making it safer to maneuver in garages and parking garages. Curb ramps, impact protection and wheel stops from C+K are just a few of the many practical aids for everyday life and can be fitted quickly and flexibly.



Perfect: top recycling products that make our day-to-day lives easier, for example with special car protection products.

EXPERIENCE SUSTAINABILITY





RUBBER –
OUR MATERIAL!

- Fall protection systems
- Floor systems
- Boundaries
- Covers
- Soundproofing
- Vases & lamps
- Designer objects
- Car protection

www.conradi-kaiser.com

DID YOU KNOW THAT?



8-inch tires are the **smallest** tires on the market.



The **largest tire** in the world is almost **25 meters high** and weighs about **12 tons**. It is currently located in Allen Park, Michigan, USA.

Did you know that perhaps the **most expensive tire in the world** to date was sold in Dubai? Some **533,000€** changed hands for the set of four. The tires, made by the local company „Z Tyre“, were decorated with **24 carat gold and diamonds**.



Did you know that **aircraft tires** are filled with **nitrogen**? Normal car tires are **filled with air**, but **oxygen** always contains a **little water**. This water would **freeze** at the **sub-zero temperatures** encountered at high altitudes, whereas **nitrogen**, on the other hand, does **not contain any water** and remains gaseous down to **-180 °C**.

Who do you think is the **largest tire manufacturer** in the world? **Lego**.

Strange as that may sound, **rubber** is actually used to make small parts of their models - also referred to as **car tires** - amounting to **306 million mini tires** each year.



1904 – the year of the **spare tire**. The brothers **Tom and Voltaire Davis** came up with the idea of equipping cars with a **spare wheel**. Starting in 1904, cars started being equipped with a spare wheel, **individually** at first. The first car in Germany with a spare wheel was a **Rambler**.



© Thomas Wulff

A portrait of Thomas Wulff:

- Born in Hanau in 1969. Married, with one daughter.
- Left school in 1989 and did „alternative civilian service“ in Hanau until 1991.
- Studied architecture at the Technical University of Darmstadt from 1991 to 1998.
- Spent 2 years as a freelancer in various architectural offices and self-employed.
- Since 2000, he has been working in the building construction department of the city of Hanau as a construction manager and is now at the „Eigenbetrieb Immobilien- und Baumanagement“ real estate and construction management unit.

SUSTAINABLE BUILDING MATERIALS WITH GREAT POTENTIAL

Local authorities have the opportunity to actively promote the path away from a throwaway economy to a circular economy by using recycled products. Recycled materials from end-of-life tires (ELT) can be used in a variety of ways, especially in municipal construction projects, for example as flooring in the outdoor areas and playgrounds at daycare centers and schools. We spoke to architect Thomas Wulff, who works as a construction manager for the city of Hanau. Thomas Wulff has been successfully using sustainable materials for municipal construction projects for years. He reports on his experiences with tire recycle as a building material for NEW LIFE.

Editor: What is your role as an architect/construction manager for the city of Hanau?

Thomas Wulff: As a construction manager I, together with 4 other colleagues, am responsible for a total of about 250 public buildings in the city, ranging from a small devotional chapel to a multifunctional large sports hall.

The main focus is on ongoing building maintenance in order to provide the users with a building that is functional in every technical respect as well as being architecturally appealing. This is why the city of Hanau places great emphasis on all construction managers having studied architecture, in

order to ensure that the design requirements of all construction measures are met, but there is also an increasing focus on new buildings due to population growth. Hanau is rapidly approaching a population of 100,000, so the infrastructure has to keep up and be adapted on an ongoing basis.

Editor: Which projects are you responsible for managing for the city?

Thomas Wulff: The building portfolio includes traditional daycare centers, schools, sports halls and facilities, fire stations, administrative buildings and community centers, as well as cultural buildings like libraries,

museums and castles. This makes for a wide-ranging and very varied field of activity.

At present, I am the site manager responsible for the construction of a new 8-group daycare center and a elementary school with a gymnasium right next door, which are being built on the site of a former barracks, which will provide space for around 5,000 new residents in the future.

Editor: You have been working with sustainable building materials/ ELT materials for a long time. How did that come about?

Thomas Wulff: The materials came into play virtually by themselves, as they are already state of the art in many areas, especially in the renovation of sports floors, for example, where they are used as an elastic layer under the actual flooring surface.

„THE MATERIALS CAME INTO PLAY VIRTUALLY BY THEMSELVES.“

Editor: Which projects have you already used recycled material made from ELT in?



© Thomas Wulff

The construction site in the August Schärttner Hall: After removal of the old sports hall floor.



© Thomas Wulff

The construction site in the August Schärttner Hall: After installation of the new sports hall floor.

Thomas Wulff: The last project was in 2020, for the renovation of a sports hall floor in the August Schärttner Hall. This large multifunctional sports hall is used by schools and clubs, but also for international competitions and cultural events. Here, rubber granulate sheeting was fully bonded over an area of approx. 2,600 square meters and coated with a PU cast coating.

ELT material is also used as building protection mats, for instance under scaffolding.

Editor: What has your experience so far been with the secondary raw material ELT as a building material?

Thomas Wulff: The experience has been entirely positive. There were no delivery problems and we were able to process the material on site without any issues.

„THE EXPERIENCE HAS BEEN ENTIRELY POSITIVE.“

Redaktion: How would you rate their durability?

Thomas Wulff: The durability is very good in the installation situations I've described.

In sports hall floors, for example, the material stays elastic for years and all the athletes have found it to be a very pleasant surface to play on.

Editor: Is ELT as a secondary raw material easy for contractors and craftsmen to process?

Thomas Wulff: In the applications we used it in the material was very easy to process, e.g. cutting to size and gluing.

Editor: Local authorities are often uncertain because of the risk of harmful PAHs that tire recycle contains. How do you see this risk?

„I DON'T SEE THE USE OF TIRE RECYCLATE AS POSING A RISK.“

Thomas Wulff: PAHs are found in a lot of products, including brand new products, not just recycled products. We come into contact with these products every day, be it computers, bath slippers or children's toys. And we are also constantly exposed to PAHs in the air due to combustion in heating systems and vehicles, but PAH exposure has been dropping for years due to

legal regulations and ordinances that have been passed, and strict approval criteria have to be met, especially in the area of floor coverings, so I don't see the use of tire recycle as posing a risk.

Editor: Do you see more potential for the use of ELT material in municipal construction projects, for example as fall protection in retirement homes or for sports fields?

Thomas Wulff: Absolutely! Fall protection slabs made of ELT are an excellent choice, particularly for the outdoor areas of daycare centers, schools and on playgrounds. They are easy to clean and none of the fall protection material, like wood chips, sticks to people's shoes and is carried out of the play area. This would otherwise need regularly replenishment, or could lead to increased wear and tear of other flooring due to being carried into the building.

Editor: How does the city let citizens know that you are using resource-conserving secondary raw materials in construction projects? Could more be done to inform people about your sustainable practices?

Thomas Wulff: Information and communication with

citizens is very important. More space should be given to this topic, especially at official inaugurations, openings or in media coverage. It shouldn't just be insider knowledge in the construction industry.

„INFORMATION AND COMMUNICATION WITH CITIZENS IS VERY IMPORTANT.“

NEW LIFE SURVEY: LOCAL AUTHORITIES AS PIONEERS OF THE CIRCULAR SOCIETY?

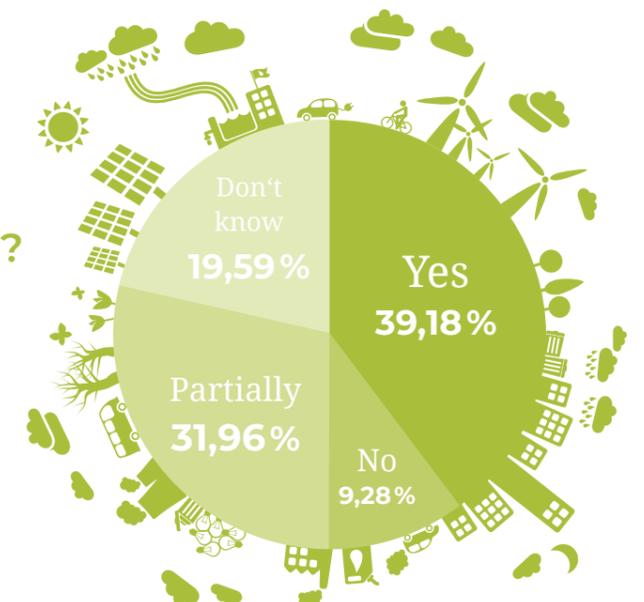
How relevant are secondary raw materials for local authorities? Where are local authorities already using secondary raw materials and where is there room for growth? These are the questions investigated in a survey conducted by the NEW LIFE initiative.

The NEW LIFE initiative invited local authorities to participate in the online survey „Use and relevance of secondary raw materials in municipalities“ between March and the end of July 2021, which posed 24 questions about the importance of secondary raw materials for local authorities. The findings are as clear as they are revealing: To date, the respondents in the local authorities have been poorly informed about the topic of secondary raw materials and the wide range of potential uses, meaning that recycled materials are rarely used in municipal projects.

The NEW LIFE initiative wants to change that! Sustainability is gaining increasing importance and cities and local authorities have the opportunity to actively influence the path from a throwaway economy to a circular economy by taking concrete steps. The consistent use of secondary raw materials in municipal projects, such as the construction of playgrounds or roads, contributes to a functioning circular economy and saves valuable resources, and recycling can provide an important livelihood for future generations, creating jobs while protecting the environment. By using recycled products made from ELT, local authorities can set a good example and live sustainability today by implementing a circular economy.

Comprehensive information on the use of ELT material in sustainable products is available to those responsible in local authorities on the NEW LIFE website: initiative-new-life.de/en

Do you work according to the **Circular Economy Act** in your local authority?



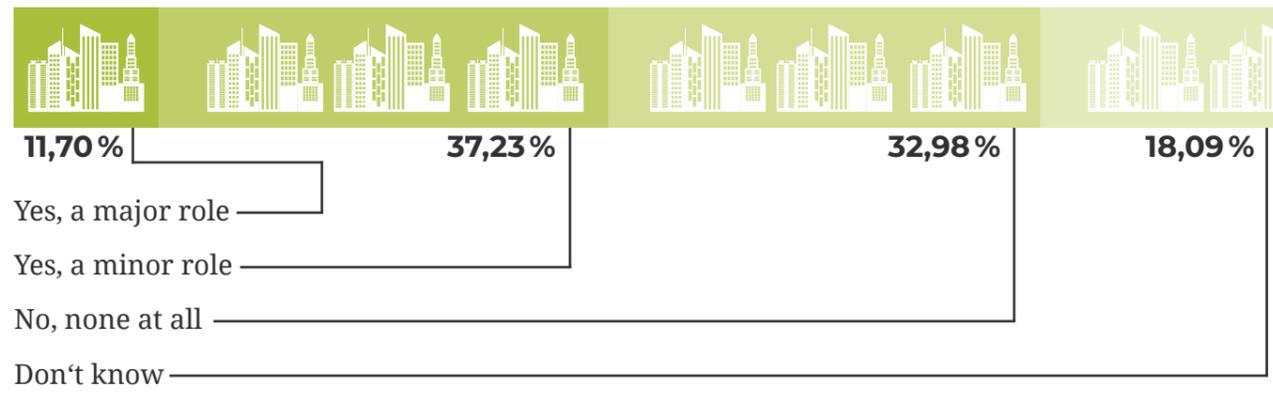
BY THE WAY:

The survey of local authorities will be repeated in 2 years!

FOCUS ON LOCAL AUTHORITIES

Survey conducted between March - July 2021

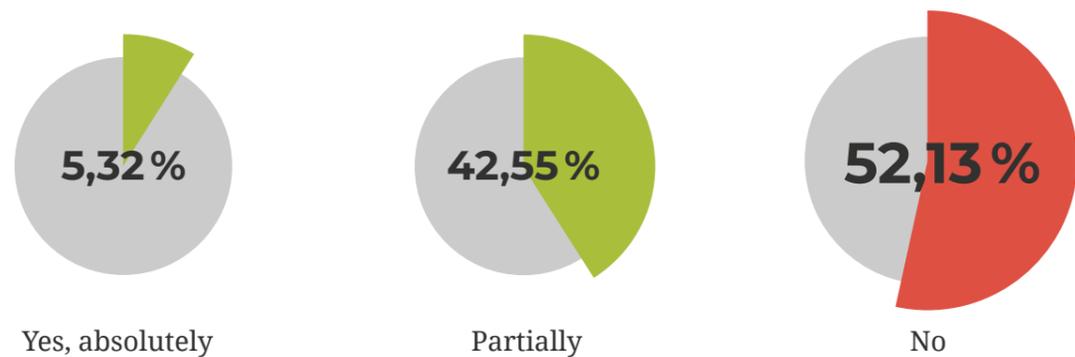
Does the use of **secondary raw materials** play a role in decisions to **award public contracts**?



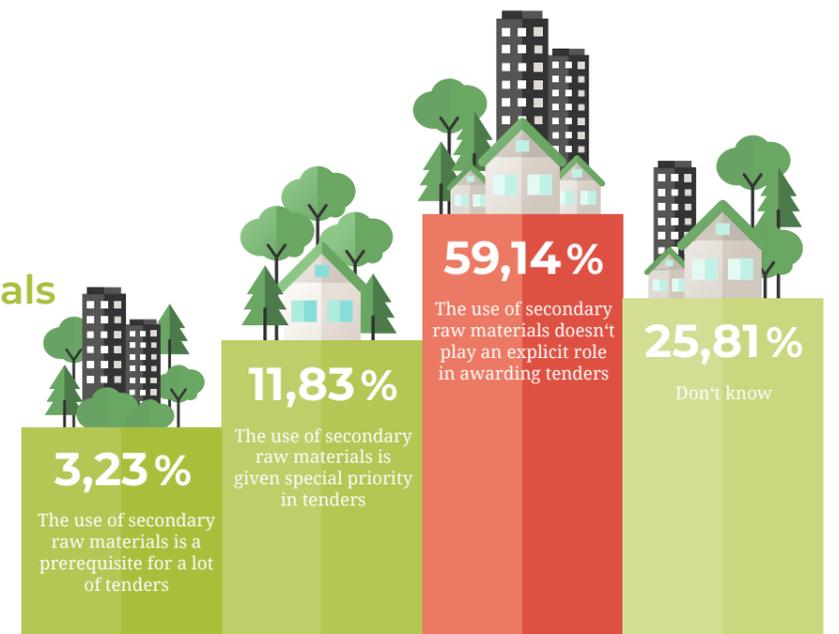
Are you familiar with the **secondary raw materials available** for use in public urban planning?



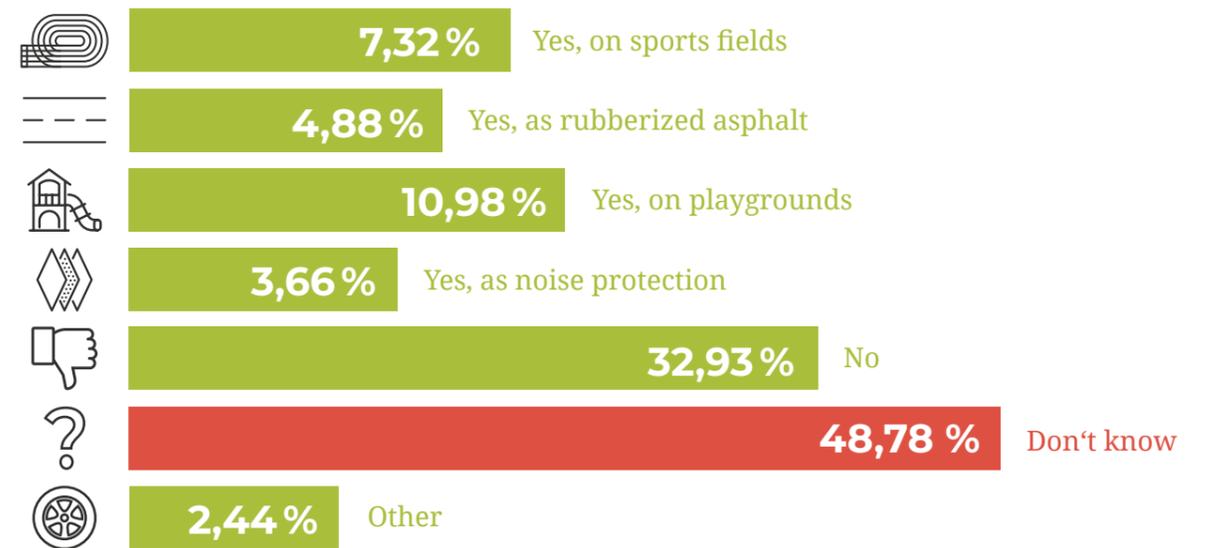
Do you feel well informed about the **advantages and disadvantages** of secondary raw materials?



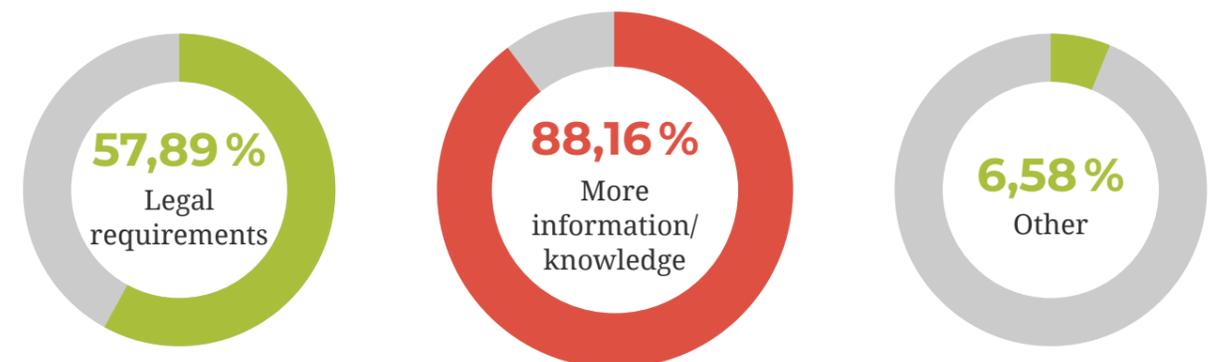
Is the use of **secondary raw materials promoted or required** in public tenders in your local authority?



Do you use **products made from recycled end-of-life tires (ELT)** in your city?



If you have not used **secondary raw materials** before or have only used them partially what could change that?



FOCUS ON LOCAL AUTHORITIES

Survey conducted between March - July 2021

In an open question, **the participating authorities** had the opportunity to express their **hopes for the future** when it comes to **secondary raw materials**.

Here is a short excerpt of the responses:



„Knowledge about products made from secondary raw materials should be improved by holding events, education campaigns and citizens' initiatives. The population needs more information on the topic.“

„The state should promote recycling more and tax the use of virgin materials.“



„We should completely eliminate garbage. All materials should be recycled!“

„Secondary raw materials should be a natural part of our everyday work and lives.“



10 HYPOTHESES ON THE USE OF SECONDARY RAW MATERIALS IN LOCAL AUTHORITIES

1 Boost the potential of local authorities!

40 % of local authorities surveyed knowingly work according to the Closed Substance Cycle Waste Management Act, so the use of secondary raw materials only plays a role in about half of all public procurement contracts. There is still lots of room for improvement! This potential should be exploited.

2 More information on the benefits of secondary raw materials!

Over 50 % of the respondents replied that they are not familiar with the secondary raw materials available for public urban planning, while only 5 % feel well informed about the pros and cons. Most respondents find out about this from trade magazines and the Internet, so it is important to distribute well-founded, easily intelligible information via all relevant channels.

3 Legislators need to play their part!

There are currently no clear legal regulations and no separate consideration of the use of secondary raw materials. Many respondents believe that more secondary raw materials would be used if there were appropriate legal requirements. Clear requirements are called for here, e.g. in tenders.

4 Improve communication about secondary raw materials!

The respondent said that information is called for to promote secondary raw materials and perhaps even require them in tenders. There is a lack of information about the various possible uses and of specific support when putting out tenders. The quality of the recycled products also needs to be guaranteed.

5 The price must be right!

Cost plays an important role in the awarding of public contracts. The price/performance ratio in the use of secondary raw materials therefore needs to be right, and ideally even more favorable, according to many respondents. Here there is a need for a rethink. Saving resources has to be economically worthwhile!

6 Improve awareness of the wide range of ELT applications!

Only a quarter of respondents said that they use products made from recycled scrap tires. So far, they have mainly been used on playgrounds and sports fields and as rubberized asphalt. They were unfamiliar with other applications, so information needs to be provided on the various areas of application.

7 Protect the climate and the environment with ELT!

Every third respondent said that they use ELT as a secondary raw material in order to help protect the climate and the environment. The motivation for local authorities that already use ELT is the material's sustainability, not the price. Best practices therefore need to be disseminated as good examples.

8 Eliminate uncertainty about ELT!

The majority of respondents see a lack of experience as the main problem preventing increased use of secondary raw materials. Legal ambiguities and excessively high prices are secondary obstacles.

9 Put sustainability into practice!

There is awareness of the positive effect on the climate and environmental protection that can be achieved by the use of secondary raw materials in local authorities according to high proportion of those surveyed. The goal now is to provide the best possible support for local authorities in implementing this.

10 Many more people need to know about it!

Local authorities would like to see the topic of secondary raw materials addressed across the board and made more well known. In addition to legal requirements, heightened popular interest would also boost the use of secondary raw materials. Initiatives, educational campaigns and events could ensure that secondary raw materials are integrated into our everyday lives as a matter of course and that awareness of environmental and climate protection continues to grow.

GARDEN AND POOL DESIGN



SUSTAINABLE AND EASY TO MAINTAIN – ARTIFICIAL TURF AND POOL PADS

Evergreen fall protection: Artificial turf rubber mats

Climate change continues, and the effects can increasingly be felt! Weather extremes are becoming more frequent and there are now longer periods of persistent drought and high

temperatures, even in our latitudes. This poses a major challenge for plants, especially in places that are heavily frequented, so the maintenance and care of gardens, balconies, playgrounds

or sports facilities can quickly become time-consuming and costly. Areas used for recreation, sports and playing are also often required to meet fall protection requirements.

With this in mind, the MRH-PTM Group has developed the new sagu® artificial turf rubber mats, which are ideal for areas that need to be permanently green and available with minimal effort, regardless of season or weather conditions. During the manufacturing process, the high-quality artificial turf is bonded to a rubber mat made from recycled truck tire granules that provides durable and uniform fall protection, thus combining an attractive, natural look with first-class artificial turf and safe fall protection with a high-quality rubber mat, all in a single product - delivered ready for installation.

The sagu® artificial turf matting is beautiful and low-maintenance artificial turf that is easy to sweep or vacuum clean. Water can drain into the ground between the joints, ensuring that there are no puddles or waterlogging. They are very sturdy and weather-resistant and no anchoring is necessary due to the high dead weight. The rubber artificial turf mats are quite easy to install.

All that is required above the subsoil is a frost-proof base with good drainage. The interlocking tiles are laid on this and connected with the plug-in dowels supplied. A curb can be also be added to form a border, but this is

not essential. Often it is enough to sow the lawn at the edge, or put down a layer of gravel.

Safe fun in the pool with pool pads

Swimming pools are the highlight of domestic gardens and the cool water offers welcome refreshment on hot summer days, but not everyone can afford or wants a fully sunken, permanently installed pool. Various sizes and styles of above-ground pools are often used, which are usually placed on the existing flat ground surface. However, it is not uncommon for this ground to contain stones, roots or other small irregularities that only become apparent under the weight of the water, then damaging the skin of the

pool. MRH-PTM developed sagu®-matting pool underlays to avoid such damage and protect the pool in the long run. This matting consists of 6 or 8 mm thick rubber mats made from recycled truck tires cut to fit the size of the pool. MRH-PTM uses cutting, milling, and



peeling technology to produce any square, round, or oval shape. A durable connection is ensured by the interlocking shape of the mats, which are connected to each other like a jigsaw puzzle. The mats are very sturdy and weather-resistant.

In combination with the sagu® matting artificial turf, the pool underlays are the ideal solution for sustainable garden design that saves raw materials,

not only representing a benefit for the user, but also for the environment. From MRH-PTM's perspective, sustainability is a form of ecological and economic action that aims to ensure comparable or better living conditions for present and future generations, focusing on ecological, economic and social aspects. Resources need to be used carefully and protected accordingly. MRH-PTM uses 100 % rubber flour from recycled

scrap tires. Recycling used tires and using rubber granulate or rubber flour, allows important primary raw materials such as natural rubber or crude oil to be saved, which means less environmental destruction and land consumption as well as reduced CO₂ emissions, while at the same time avoiding waste by using the secondary raw material. Tire recycling makes a decisive contribution to our environment.

MRH PTM Your partner for environmentally friendly and sustainable rubber products from Saxony.

sagu flooring **sagu matting**



Innovative products from scrap tyres

Rubber tiles
hard-wearing floor covering in tile format in many colours for individual design for trade, industry and leisure

Rubber mats
robust and durable, in standard and special sizes from 2 to 40 mm thickness, individual cuts with CNC technology

Waterproofing systems:
solvent-free universal building waterproofing, easy to apply in various colours

Oil binding agent: tested and approved oil binder, also available as hazardous goods bucket with emergency set



sagu coating **sagu additiv**

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NEW LIFE - RECYCLED PRODUCTS

A LABEL FOR GREATER SUSTAINABILITY

Rubber granules and rubber flour made from end-of-life tires (ELT) are flexible and versatile secondary raw materials. Thanks to their excellent properties, tire recyclates can be processed into a wide range of products. NEW LIFE's partner companies process these valuable secondary raw materials or use them for innovative products of outstanding quality.

The NEW LIFE initiative has launched the „NEW LIFE - Recycled Product“ label to identify such high-quality, sustainable products and make it easier for consumers to recognize and buy recycled products.

Criteria for the recycling label

Manufacturers have to meet certain requirements for their products to bear the label. The criteria for the label were developed by experts from industry and associations.

NEW LIFE awards two different recycling labels exclusively to products that are made of a specific proportion of recycled rubber. The „NEW LIFE Recycled Product“ label is awarded to products that contain at least 20 % recycled material,

while the „NEW LIFE Top Recycled Product“ category identifies products containing at least 80 % recycled material.

Companies that want to use the „NEW LIFE - Recycled Product“ label on their products are required to become partners of the „NEW LIFE“ initiative. The existing partners, under the umbrella of the wdk, decide on whether new members are accepted. Permission to use the label has to be requested from NEW LIFE individually for each product or product line.

If all of the criteria are met, the manufacturers receive a certificate and are then entitled to use the label for the relevant product, for instance on packaging or in online marketing an e-commerce.



„USE INSTEAD OF OWNING“

The Deutsche Bundesstiftung Umwelt (DBU) supports innovative, model and solution-oriented projects that contribute to protecting the environment. With its work, the DBU advocates the sustainable use of resources, with a particular focus on small and medium-sized enterprises. Dr. Maximilian Hempel is head of the DBU's Environmental Research and Nature Conservation Department. In this interview, Maximilian Hempel argues for a paradigm shift in economic thinking - away from a throwaway mentality and towards a circular society - and talks about the potential of SMEs for a functioning circular economy.

Editor: The DBU is one of the largest foundations in the field of environmental protection. What exactly is your job at the foundation?

Dr. Maximilian Hempel: The DBU promotes innovative, model and solution-oriented projects to protecting the environment. Small and medium-sized enterprises are a key target group for us. We do not limit our efforts to supporting projects financially, but want to make a sustainable impact in practice, which is why we discuss relevant environmental issues with the players involved and look for solutions together. This includes being open to innovative ideas, but we also set our own technical priorities, as is currently the case with the topic of the circular economy. Like many other environmental issues, developing solutions

requires interdisciplinary expertise, from engineering and natural sciences to economics and social sciences, to education and communication skills, and at the DBU, I coordinate our activities in the area of the circular economy.

Editor: This year, the recyclable material stream of used tires was included in the streams of recyclable materials eligible for funding. What prompted you to make this change?

Dr. Maximilian Hempel: The use of the Earth's natural resources is a critical issue for mankind. Be it energy, land or raw materials, our use of natural resources already exceeds the earth's ability to regenerate, and we are seeing a growth in extraction of raw materials worldwide. At the same time, the range of elements and



© Maximilian Dr. Hempel

Portrait of Dr. Maximilian Hempel:

- Studied geology with a focus on geochemistry at the University of Hamburg.
- 1993: Awarded his doctorate at the Technical University of Hamburg-Harburg, with a thesis on the topic of mercury in the environment
- 1990-1996 Research scientist at the Institute of Physical Chemistry, Helmholtz-Zentrum Geesthacht
- 1996-2001 One of three founders and managing director of the GALAB environmental laboratory
- 2002: Joined DBU, initially as head of the Environmental Chemistry Department, since April 2019 as head of the Environmental Research and Nature Conservation Department
- Coordinator of activities on the topic of the circular economy at the DBU



substances used in products is increasing rapidly, for example in composite materials, which makes it more difficult to recover valuable resources. This makes careful and efficient use of resources a key competence for future generations. This requires a decoupling of both global development in prosperity and the environmental impact of the consumption of raw materials. Instead of extracting valuable and finite raw materials, manufacturing products from them, and then throwing these products in the trash at the end of their useful life, all-encompassing recycling is essential - the so-called circular economy. The DBU has been dedicated to this for many years. We see considerable potential for transformation towards a sustainable economy, especially for large material flows, such as building materials, textiles, as well as high-value products, which contain particularly valuable, and sometimes scarce materials, and have a large ecological footprint. Over 500,000 tons of scrap tires are generated every year in Germany alone!

Editor: We shouldn't just consider recycling when the products become waste at the end of their useful lives. In your view, when do we need to consider recycling?

„WHAT IS CALLED FOR IS A PARADIGM SHIFT IN THE LOGIC OF VALUE CREATION.“

Dr. Maximilian Hempel: Recycling is only part of the answer – and also only part of the circular economy. What is called for is a paradigm shift in the logic of value creation, an alternative to the conventional linear „take - make - waste“ principle, i.e.: extract raw materials, use and dispose of them. The circular economy thus offers a path towards a sustainable transformation of the economy and society: an expanded circular economy that takes the entire product life cycle into account. It not only encompasses resource efficiency and productivity, but also - in addition to waste avoidance - sustainable product design and long-term,

efficient use. „Use instead of own“ is the keyword here. In all of these processing steps, it makes sense to pursue the circular concept. There are particularly great opportunities in the design of products and the development of the appropriate business model.

Editor: Where do you see the hurdles to achieving a perfect circular economy in Germany?

Dr. Maximilian Hempel: The European Green Deal presented by the European Union provides an effective basis. When it comes to establishing a successful circular economy, it is now a matter of defining circular processes for individual product groups and material flows. Transparency and standardization play a major role here. This also means that, in order to market recycled materials, we need to know about the various ingredients used.

The textile sector is a good example. Standards are also needed to classify the condition of used and recycled materials. In this context, the development of circular business models will play a major role in the future. circular business models that enable an extension of the service life - in the sense of sharing and participation, lending, second use and reuse. Circular

Economy offers start-ups in particular, but also established companies, opportunities for new business models. And the Circular Economy also paves the way for both ecological goals such as climate protection and resource conservation as well as economic goals such as competitiveness, independence from raw materials and job security.



Editor: Tires are essential both for individual mobility as well as for logistics and the transport industry. Worldwide, tire consumption is likely to grow even more. In Germany alone, they currently amount to around 570,000 tons, and Europe-wide around 3.4 million tons per annum. What needs to happen, in your opinion, as quickly as possible and as a matter of priority, in order to recycle this volume sustainably in the future?

Dr. Maximilian Hempel:

Particularly in view of the volume of scrap tires you just mentioned, it will be essential to find recycling solutions in future. These may consist of increasing the proportion of re-treaded (used) tires. Around a third of truck and other commercial vehicle tires are already re-treaded, but there is certainly still room for improvement when it comes to cars. Of course, we also need other innovative developments to ensure that rubber from scrap tires isn't simply disposed of, but recycled and reused in the spirit of comprehensive recycling - and to ensure the highest possible quality.

Editor: In the past, tires were primarily thermally recycled. Today, the proportion of material recycling is 66 %, and this percentage is expected to continue to grow. What do we need to do, in your opinion, to overcome reservations about recycled products?

Dr. Maximilian Hempel:

We also see these reservations in other sectors and other product areas, but in the tire sector, I see great opportunities from a circular economy. Recyclable design can help keep tires in the material cycle for longer, but demand also needs to grow along with it, and in the case of

used tires, this means that such circular approaches need to be developed jointly with the automotive industry and recycling companies. Transparency and standardization are essential prerequisites for increasing acceptance among consumers and customers, who have a crucial role to play in this, both in their purchasing decisions, in their behavior when it comes to waste, and when they decide on leasing or sharing offers, i.e. car hire and car sharing.

„IN THE TIRE SECTOR, I SEE GREAT OPPORTUNITIES FROM A CIRCULAR ECONOMY.“

Editor: Recycled products are often seen as being of inferior quality, even though experts know that they are absolutely comparable in terms of quality. How can the DBU help make recycled products the first choice?

Dr. Maximilian Hempel:

This is already happening in various ways. On the one hand, of course, through the foundation's funding activities, which is why the DBU provides technical and financial support for precisely those innovative

projects that promote the comprehensive recycling of materials. Secondly, through communication, true to the motto „Do good and talk about it“.

Editor: According to numerous studies, rubberized asphalt is a product that improves the durability of asphalt. In some countries, such as Canada, the USA, and the Netherlands, it is used nationwide. In Germany, it is basically only used in Bavaria. How can we replicate sustainable success stories more quickly and raise their prominence?

Dr. Maximilian Hempel:

This will certainly require sophisticated interaction between business, science and politics - where the players in the respective areas can all contribute what is necessary and feasible. Business can provide innovative investment opportunities, the scientific community can contribute the technical expertise, and politics needs to establish the legal framework for products that promise sustainable success.

Editor: In your view, should public-sector clients - local authorities, cities and states - always take the aspect of sustainability into account when awarding contracts, and how can the public sector set a good



example and encourage others to follow suit?

Dr. Maximilian Hempel:

Policy makers could increase demand for circular products and business models by defining target specifications for used, remanufactured and recycled products in public procurement. The authors of the study „Circular Economy Roadmap for Germany“ recommend implementing targets and quotas at the various levels of the public sector via budget planning.

Editor: Let's talk about overregulation. Many companies that develop innovative products in the recycling sector fail because of overregulation

by the authorities. It often takes far too long for approvals to be granted and changes to be initiated. The recycling industry, in particular, needs security in order to be able to develop and conduct research. Can the DBU support companies in this area?

Dr. Maximilian Hempel:

As I already explained, the funding activities of the German Federal Foundation for the Environment are based on the foundation's mission and in line with the DBU's mission statement. In essence, the innovative projects we support always aim to improve environmental protection, with a particular focus on small and medium-sized enterprises, but what good are



new solutions if no one hears about them?

„WHAT GOOD ARE NEW SOLUTIONS IF NO ONE HEARS ABOUT THEM?“

This is where the Center for Environmental Communication, founded by the DBU, comes in. It provides support for the implementation of innovations through target-group-specific communication. When it comes to regulation and compromises on legislative requirements, however, we need to rely on other players.

Editor: Where do you still see untapped potential in the circular economy?

Dr. Maximilian Hempel: The German Federal President Frank-Walter Steinmeier described this very aptly just recently, in early June during the so-called „Environment Week“, which the German Federal Foundation for the Environment organized for the sixth time this year, but was held in both physical and digital format this year, due to the Corona pandemic. In his opening speech, the Federal President spoke of a „transformation of

society on a massive scale“. In particular, this involves the Circular Economy. DBU Secretary General Alexander Bonde put it this way: „We must learn to live, think and act in cycles. We need to put a stop to the over-exploitation of raw materials.“ Conversely, this means that the circular economy can still yield unimagined benefits in the various sectors and for a wide variety of products. All of this will help to preserve the planet for sustainable human life - and of course needs people to get involved. The circular economy thus becomes a circular society in the best sense of the word.

Editor: Everyone has been talking about the topic of climate change for years. A Google search yielded some 15 million results. A lot is written about it and a lot is said, but is corresponding action also being taken? Also, can you name any successful projects that your foundation has supported that are encouraging and have generated sustainable change?

Dr. Maximilian Hempel: The current global consumption of resources is fueling the climate crisis. In concrete terms, the extraction and processing of natural resources causes about half of all greenhouse gas emissions

worldwide. Unless we use resources more carefully, we will be unable to achieve environmental protection and biodiversity goals. A comprehensive circular economy also calls for more than the technical optimization of individual processes, but involves an entirely different kind of economy.

„WE SEE THE CIRCULAR ECONOMY AS A TREND-SETTING CONCEPT.“

The DBU sees the circular economy as a trend-setting concept towards a resource-saving systemic economy – with considerable potential for SMEs as the backbone of the German economy. Small and medium-sized enterprises (SMEs)



and start-ups, in particular, can help close loops with innovative solutions, new concepts and ideas.

Let me give you 2 examples: Solar panels and wind turbines provide a lot of electricity on some days, but less on others. One obvious approach to balancing these fluctuations is power storage systems such as batteries. Their role can also be played by so-called „virtual power plants“, which consist of small, decentralized power generators and consumers that coordinate with each other to provide the necessary balance.

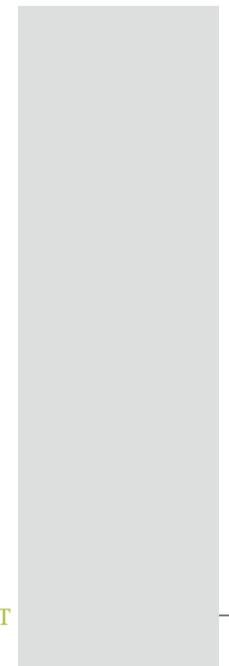
In a project funded by the DBU, the ebök Institute for Applied Efficiency Research (Tübingen) and Reutlingen University are investigating the extent to which electricity trading between lots of small players like this can be simplified with the help of digital technology and thus make an important contribution to the energy transition. Secondly, the use of recycled plastics, so-called recyclates, is a central approach to saving

raw materials and reducing the amount of plastic that gets into the environment, because a demand for waste prevents plastic from being improperly disposed of in the environment. In addition to this, the use of recyclates saves between 50 and 85 % of the carbon dioxide (CO₂) emissions that result from manufacturing with virgin materials. This is because the plastic crisis is fueled primarily by the fact that virgin materials are often cheaper to buy. Also, the trade in recycled materials is characterized by fluctuations in quality, unclear material flows, a lack of standards and a low degree of digitalization.

The startup cirplus GmbH, which is funded by the DBU, offers a digital trading platform for suppliers and consumers of plastic waste and recyclates worldwide to reduce these costs for industrial use. This allows cirplus to achieve a double sustainability effect: less environmental pollution and lower CO₂ emissions.

Editor: What are your hopes for the future?

Dr. Maximilian Hempel: I would like to see a lot of creative and practical ideas that keep resources in circulation for longer, and exciting research problems for our newly established doctoral fellowship focusing on „Doing business and living better in cycles - transformation potentials of the circular economy“. Here, the DBU offers three-year fellowships for researchers in the social sciences, humanities, law, economics and the arts, although researchers in the natural sciences are also welcome.



BIOPLASTICS		Plastics made from renewable and/or biodegradable raw materials.
CLOSED LOOP		Closed product loops are the solution of the future. Closed-loop recycling aims to return the raw materials obtained from products to the raw material cycle for production of new products after they have been used.
DOWNCYCLING		Reprocessing of materials, but not preserving the original quality. Instead, devaluation takes place.
PLANNED OBSOLESCENCE		Planned obsolescence is a marketing strategy whereby the obsolescence of a product/substance is planned and conceptualized.
GREEN ECONOMY		A way of doing business that aims to achieve environmental sustainability, economic profitability, and social justice. The aim is to minimize environmental crises, use sustainable energy sources, reduce emissions that are harmful to the climate and fight poverty.
OPEN LOOP		In open-loop recycling, the components of one product are used to make another product - for example: plastic packaging is turned into garden furniture.
UPCYCLING		Waste products or used materials are transformed into new products, resulting in material upgrading.

PYROLYSIS		Thermo-chemical conversion processes break down organic bonds at high temperatures in the absence of oxygen, allowing biomass to be converted into higher value products.
RECYCLING		Means something like „recycling“ or „reprocessing“. This involves recycling waste products or turning the original materials into secondary raw materials, which can then be used for a new product cycle.
SUSTAINABILITY		Resource utilization is to be given priority, so that the natural capacity of all (eco)systems to regenerate is maintained.
WASTE-TO-ENERGY		A process of generating energy in the form of heat and/or electricity from (primary) waste treatment or processing waste to turn it into a source of fuel.
URBAN MINING		Means „mining in urban areas“. This process is based on the concept of extracting raw materials from the vast amounts of waste. After the waste is collected, it is thoroughly sorted and then processed
ZERO WASTE		Is the goal that people and companies should pursue in their efforts to not produce waste, but instead to create cycles in which final and waste products become raw materials or resources for new products.

PERFORMANCE FOR THE ROAD



© KURZ Karkassenhandel

RUBBERIZED ASPHALT – PERFORMANCE FOR THE ROAD

All around the world, the ecological aspect of production is becoming an increasingly important part of business, alongside the establishment of fair working conditions. Companies, tradesmen, public authorities and consumers want to cut carbon dioxide (CO₂) emissions as much

as possible - from disposable cutlery made from renewable raw materials to electric container ships. Road construction is also working on improving its environmental footprint. Many companies want to reduce their carbon footprint with innovations in the asphalt production sector.

The concept of modifying bitumen or asphalt with rubber has now also arrived in Europe and is a tried-and-tested method developed through ideas from all over the world that addresses several problems at once.

Rubberized asphalt requires lower temperatures during

production and is very durable, meaning that the use of rubberized asphalt can save considerable amounts of CO₂.

Some 3.4 million tons of scrap tires are produced in Europe each year - enough to use large amounts in asphalt.

Rubberized asphalt is ecological and economical

Research and industry are working together on rubberized asphalt to make roads more resilient, reduce roadworks and avoid the resulting traffic jams. One tried & tested technique for increasing load-bearing capacity is modification with rubber flour. Rubberization has a positive effect by reducing rutting and cracking and improves road performance without wasting any primary raw materials.

In rubberized asphalt, the secondary raw material can be processed excellently. On the one hand, this saves resources and on the other it makes the asphalt more durable, but not only does rubberized asphalt have a positive environmental impact, it also has economic benefits, as it saves the taxpayer and the federal budget a lot of money. By reducing the frequency of resurfacing, federal expenditure can be reduced and taxpayers save time due to the lower number

of roadworks, be it on their way to work or when going on vacation.

Aokto – rubber flour with a future

The quality of the Aokto product from KURZ Karkassenhandel is reproducible due to the high quality of the raw material and is therefore of consistent high quality. Anyone who knows how to use rubber flour is also aware that this is a raw material recycling process that is about much more than just recycling old tires and other rubber products and their components.

It is about our environment, our future and the economically positive aspects of using an existing raw material that is unfortunately used far too seldom. Environmental and economic aspects and the fascination for ELT (end-of-life tires) as a raw material, which motivates KURZ Karkassenhandel as well as many other companies, are the keys to making our roads green.

Aokto is made from high-quality components of truck tires. To achieve an optimum surface, it is hot-ground and combined with other additives - which are, of course, also environmentally compatible - in a special plant.



© KURZ Karkassenhandel

Ideal for high demands

Aokto is impressive due to its high quality and long shelf life and it can be processed in asphalt production plants using standard technology. Its high flexibility and adaptability when it comes to the desired quality of the asphalt make it ideal for any road construction project, but especially demanding projects. Rubberized asphalt is laid at comparatively low temperatures, meaning that less energy is needed to make the asphalt.

If the required temperatures are maintained, the modified rubber flour from KURZ Karkassenhandel doesn't develop any other odors, which simplifies application and is indispensable for the safety of the workers. Working with the rubberized asphalt already starts during transport, and neither does the material stick together on the way from the asphalt mixing plant to the construction site,

nor does the rubber settle during transport, so there are no residues, even after unloading. Paving and transport can thus be performed without leaving any residues. The crews used for the test section at the KURZ depot didn't notice the addition of the rubber flour during processing, as is confirmed from practical experience by the absence of odor. Even their concerns about problems with compaction were unfounded, so it was a complete success for KURZ.

Sustainable innovations for environmental protection

KURZ Karkassenhandel GmbH has been in business for over 66 years and looks optimistically to the future. The company is constantly contributing to making roads and pathways more resilient and durable with rubberized asphalt and has set itself the task of educating and informing the public about ambiguities, misinformation and prejudices

relating to the use of rubberized asphalt - in order to advance climate and environmental protection and provide the next generation with a foundation for the future now.

KURZ
Since 1955

AOKTO – THE RUBBER FLOUR FOR HIGHEST DEMANDS

- Valuable recycling product, e.g. for rubberized asphalt
 - ➔ easy to process
 - ➔ longer service life
 - ➔ reduced noise emissions
 - ➔ greater temperature resistance
 - ➔ less rutting
- Grain sizes from < 0.4 to 2 mm
- Consistent high quality
- Odorless

environmentally friendly & responsible

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SPOTLIGHT ON SCRAP TIRE RECYCLING

AZUR CONTINUES NETWORK SELF-FINANCED

On May 19, 2021, the final event of the AZuR (Future Tire Alliance) funding project took place. Experts from the tire industry, scrap tire disposal companies and recyclers, retreaders and retailers discussed sustainable forms of recycling for the future in presentations and workshops. The varied live program during the digital event offered plenty of opportunity for discussion and sharing of ideas between the more than 80 participants from a wide range of industries who took part.

The AZuR network, which was funded by the German Federal Ministry of Education and Research (BMBF) until May 31, 2021, took stock of its achievements to date at the event. AZuR brought many companies and organizations from the tire segment together over the last ten months. Following the end of BMBF funding, AZuR is now being continued under the auspices of the Association of the German Rubber Industry (wdk).

AZuR has been giving tires a future since 2020

The establishment of the AZuR network was initiated in 2018 by

the ZARE initiative, a working group of the German Tire Trade and Vulcanization Association (BRV). The mountain of used tires is growing constantly, while at the same time sales channels are disappearing for various reasons, including the fact that cement plants are reducing the amount of scrap tires used as fuel. A new innovation forum of tire industry players aimed to help find new sales channels for scrap tires. ZARE and BRV applied for funding from the German Federal Ministry of Education and Research (BMBF) in 2019, and the ministry approved the funding in 2020. Today, the network is made up of 22 companies, 7 organizations and

Prepare for a new future

THE AZUR NETWORK FINDS WAYS AND SOLUTIONS FOR AN ECOLOGICALLY AND ECONOMICALLY SENSIBLE TIRE CYCLE.

© AZuR

SPOTLIGHT ON SCRAP TIRE RECYCLING

associations, 7 universities and institutes, and 2 media partners - including energy recyclers, machine manufacturers, retreaders, and waste disposal companies.

The NEW LIFE initiative is also a partner of AZuR. The common goal of the network is to shape scrap tire recycling in such a way that 100 % of scrap tires are returned to the materials cycle. Much has already been achieved in the first ten months. Within the network, working groups were formed on pyrolysis/energy recovery, retreading and recycling. Discussions were held in workshops

and experiences were shared. The cooperation between companies representing the entire value chain and the colleges and universities in the network was fruitful and quickly yielded new insights. For example, a survey was conducted and a comprehensive feasibility study was published, under the leadership of Dr. Stefan Hoyer from Chemnitz University of Technology.

AZuR's work will go on

At the digital closing event, the participants summed up their achievements to date and made plans for the future. Anish Taneja, president of the wdk, gave

a speech in which he emphasized that it is imperative to continue the work of the new network. He called on all market players to work together to find ways of ensuring individual mobility, even against the backdrop of the increasing demands of the circular economy. This can only succeed with new technologies and systems that recycle 100 % of tires, he said. Taneja also stressed the importance of support from policy makers, for example by deregulating the specifications for substance content and actively promoting innovative, sustainable recycling products.

Retreading, rubber granules, pyrolysis, devulcanization – important issues for the future

The crucial role of tire retreading was discussed in a panel discussion, workshops and other contributions. A million tons of CO2 could be saved if every second truck ran on retreaded tires. The participants agreed that retreading still holds great untapped potential in the truck sector. A rethink is called for here - and a lot of persuasion. Politicians could take a pioneering role in this area and, for example, allow municipal vehicles to run on retreaded tires.

The participants in the event also saw further potential for improvement in the use of scrap tire granulate: „There are plenty of areas of application and innovative products, but political overregulation is blocking widespread use. In order to save resources and recycle most of the valuable raw materials, outdated regulations need to be challenged and adapted in line with current technology. There have been initial achievements in the areas of pyrolysis and devulcanization. Pascal Klein, managing director of Pyrum from Dillingen, Saarland, reported that around 7,000 tons of scrap tires are processed there into

recycled carbon black, steel, oils and gases, which in turn are used as raw materials for a chemical plant. The participating research institutions also reported successful tests in the field of devulcanization, as Professor Ulrich Giese from the DIK (Deutsches Institut für Kautschuktechnologie e. V. - German Institute of Rubber Technology) showed in a presentation. Dr. Bettina Hoffmann (MdB) from Bündnis 90/Die Grünen - the German Green Party - made a contribution from the political arena, presenting a 5-point plan for the circular economy.

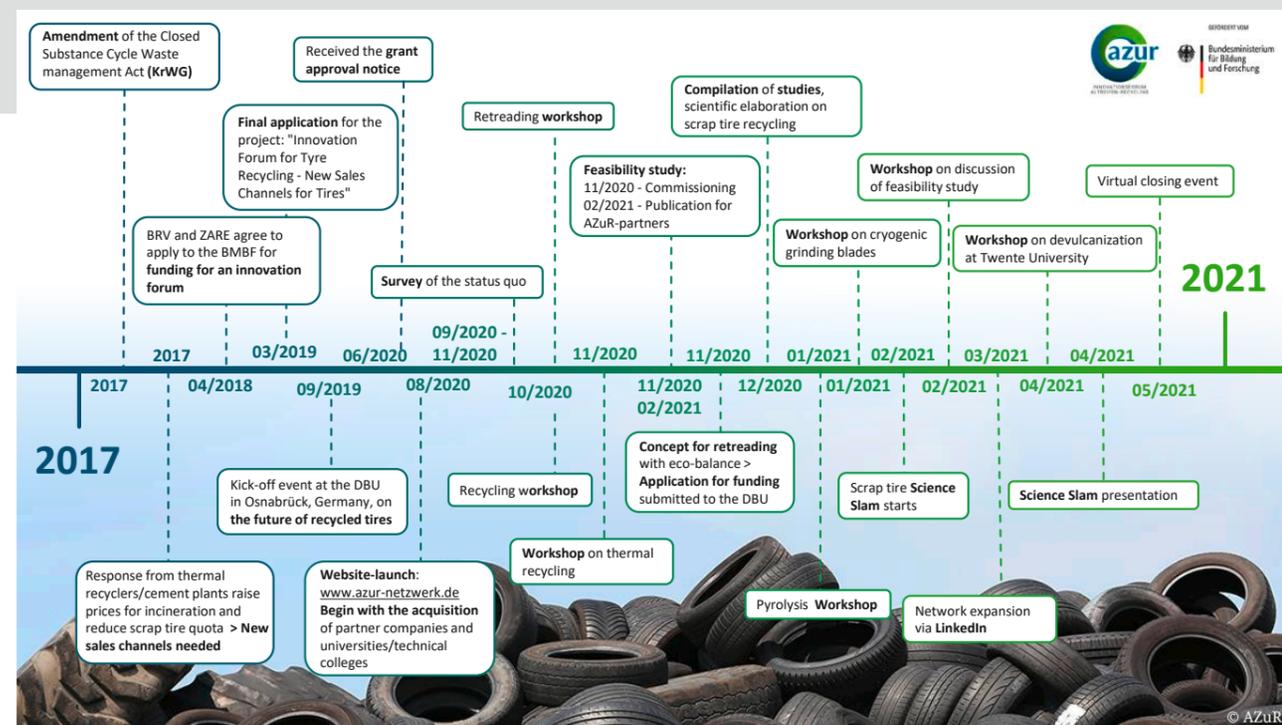
In the course of lively discussions, a common conclusion emerged about the event and AZuR's future work: the industry has the knowledge and expertise for forward-looking, ecologically and economically feasible scrap tire recycling.

In addition to the clear political commitment, the demands now also need to be stringently implemented in practice.

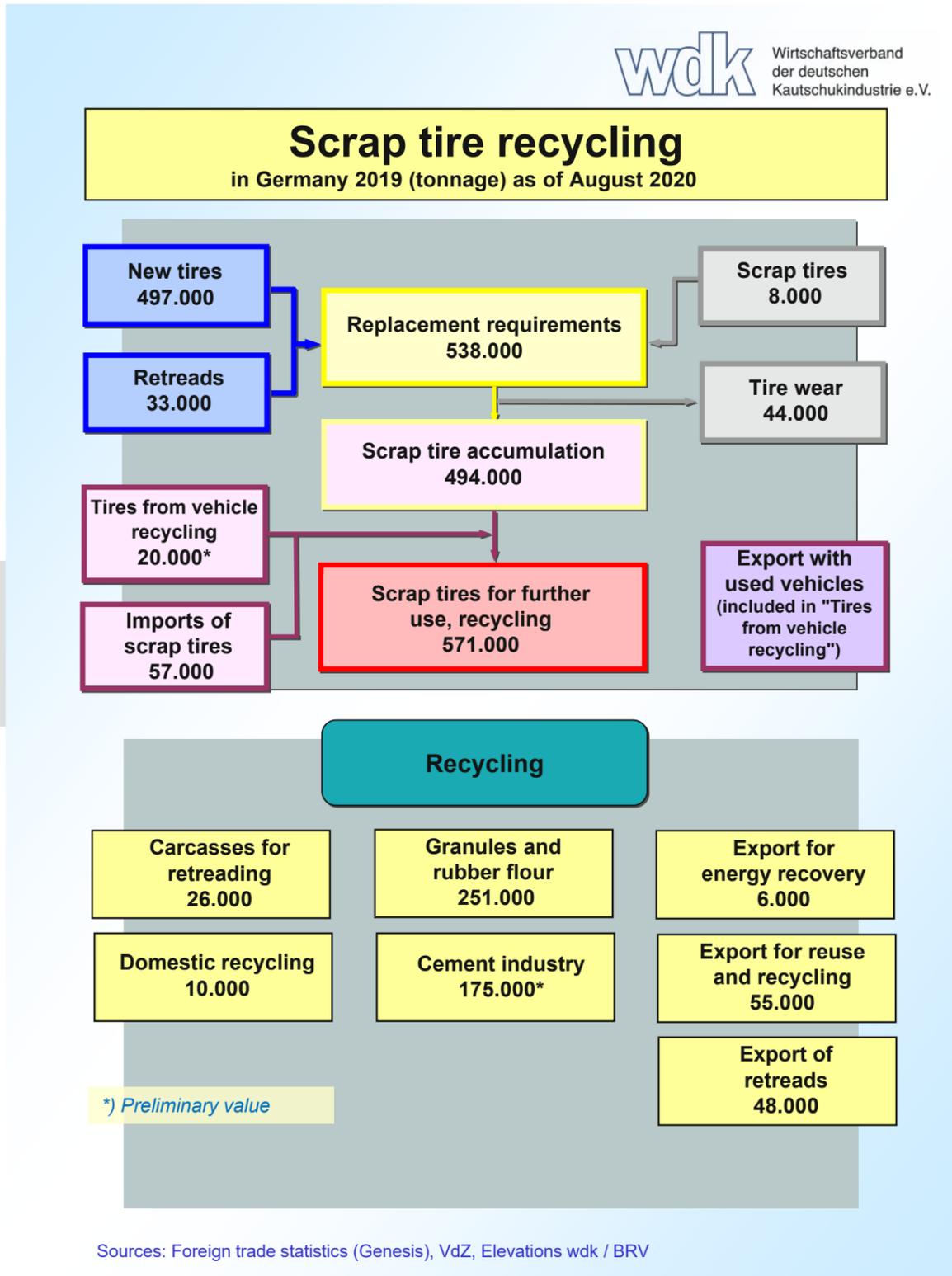


Portrait of Anish Taneja:

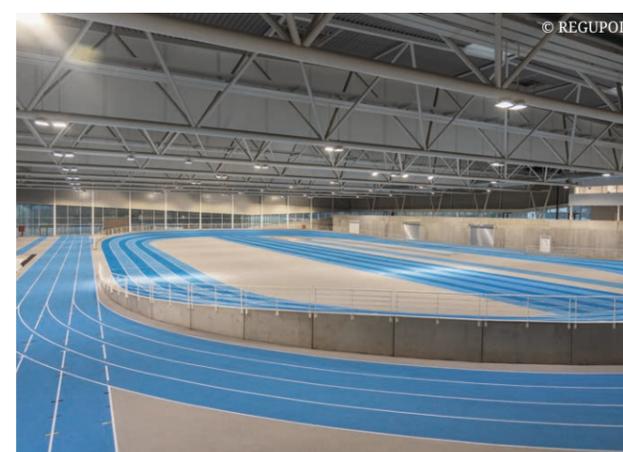
- Born in Langen in 1978
- President of Michelin Europe North since January 1, 2018
- Studied international management at Copenhagen Business School
- Graduated in international business and management in Stuttgart and London
- Intermediate stops at well-known companies such as Deutsche Lufthansa AG, Enterprise Autovermietung GmbH, Europcar Group, Sixt Group
- Joined Michelin in August 2013
- Since May 2015: managing authorized signatory and head of sales



SCRAP TIRE DISPOSAL – VOLUME AND USE



SHAPING THE FUTURE – LIVING WELL WITH SUSTAINABLE RECYCLED PRODUCTS



[1] Association of the German Rubber Industry (wdk)

NEW LIFE

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ACT MINDFULLY

Being mindful and considerate with yourself and the environment & consuming sustainably – these are all important values of our day and age.

