

SUSTAINABLE BUILDING

WHITEPAPER

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WHAT HAVE SPORTS GROUNDS ON TOP OF SUPERMARKETS TO DO WITH **SUSTAINABILITY?**

An answer to this question is precisely what the content of this brochure is intended to give.

The sustainability debate in Germany and the European Union has now placed its focus squarely on the construction industry, especially as this sector accounts for around 50% of raw material extraction and 35% of waste generation in the EU¹. An industry that urgently needs to reform, if the EU really wants to meet the climate targets it has set itself for the coming decades.

The following section will closely examine at the European Green Deal, taking particular account of the circular economy in German and the EU. After all, the circular economy has a special role to play when it comes to actually implementing the climate targets. This will also include obliging public authorities to give preferential treatment to or give preference to sustainable products and services when awarding construction contracts.



THE
EUROPEAN
GREEN DEAL

EUROPEAN GREEN DEAL

MORE THAN JUST A GOOD INTENTION?

Barely two weeks after taking office, new EU Commission President Ursula von der Leyen presented the European Green Deal. That was in December 2019. Her target is ambitious. Von der Leyen wants to decouple economic growth from the use of resources. From 2050, the EU is to be climate-neutral, which means net greenhouse gas emissions should be reduced to zero. That sounds good, because we now live in a world where half of all greenhouse gas emissions can be attributed to the extraction and processing of resources ²; where more than ninety percent of biodiversity has been lost and water is becoming increasingly scarce; in which living space of more than one billion people may be massively under threat by the year 2050 ³ - also due to climate change and its consequences.

Seen against this backdrop, the Green Deal is little more than a construct of laudable ideas, with no concrete legislative initiatives. The targets will become binding with the climate law that the EU Commission will present at the beginning of 2020; the first legislative proposal and regarded as the core of the Green Deal. The actual text of the law was initially short, simple and provoked criticism: in order to counteract the climate emergency, demand climate protectors, a 65 percent reduction in emissions is needed by 2030. In September 2020 the European Parliament's Environment Committee came close to meeting this demand and voted for a reduction in greenhouse gas emissions of 60 percent compared with the reference year 1990. By 2030.

An independent European Climate Expert Council, tougher review mechanisms and measures to ensure that all future EU legislation is designed to meet the climate targets are intended to promote the success of the law. This is a new precedent: until now, achieving such targets has been considered a matter of state sovereignty. From 2023, the EU Commission wants to review the climate targets every five years and raise them if necessary. Another exciting development is the right to climate protection for citizens of the EU - in other words, the legal right to sue one's own government in national courts should it fail to meet agreed climate targets.

The European Green Deal envisages fifty measures - many of them relating to use of resources. After all, we would need three Earths by 2050, if humanity was to continue as it has done so far. Incidentally, by amending the Climate Protection Act in mid-2021, the German government tightened the climate protection targets and wrote the goal of greenhouse gas neutrality by 2045 into law. By 2030, emissions are planned to fall by 65 percent compared to 1990.



ACTION PLAN FOR THE CIRCULAR ECONOMY

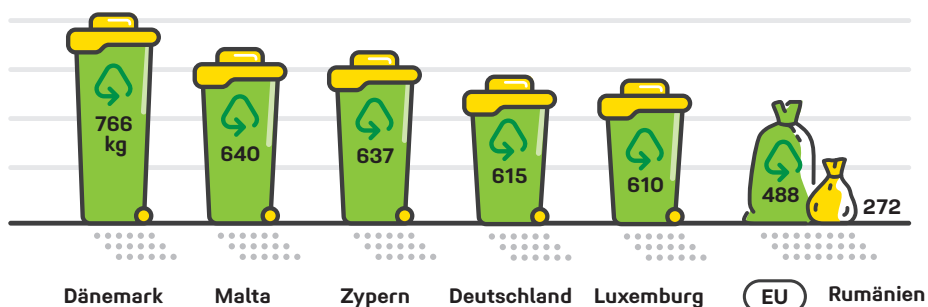
Energy and resource-efficient building and renovation is to be one part of the solution. The circular economy is to be another. On 11th March 2020, the EU Commission adopted an action plan for the circular economy. This plan is a central component of the European Green Deal and aims to put an end to the throw-away society in Europe. As a reminder, half of all greenhouse gas emissions result from raw material extraction and processing.

Products should have a longer lifespan and be easier to repair, recycle and reuse – consumer rights are to be strengthened. An important goal is also the avoidance and prevention of waste, which is intended to relieve the burden on the environment, increase the security of raw materials supply and improve competitiveness. By promoting innovation, the Commission hopes to increase the EU's gross domestic product by an additional 0.5 percent and create 700,000 new jobs by 2030.

The construction industry has an important role to play in these plans. The aim of the Commission is to promote the principles of the circular economy throughout the entire life cycle of buildings. New measures, such as the introduction of the appropriate binding minimum criteria and targets, are intended to encourage a more widespread use of green public procurement practices.

WASTE GENERATION IN THE EU

Kilograms per person, 2018



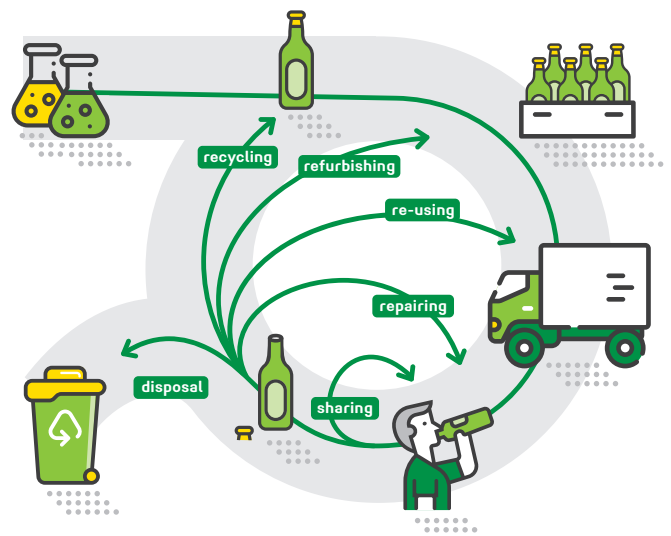
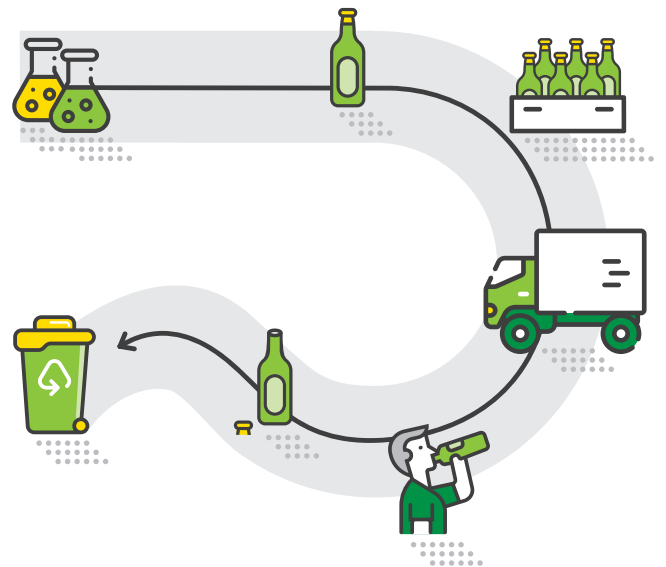
THE CIRCULAR ECONOMY IN THE FEDERAL REPUBLIC OF GERMANY

The original version of today's "Closed Substance Cycle Waste Management Act" (Kreislaufwirtschaftsgesetz - KrWG) came into force in Germany as early as the mid-1990s – at a time when there were only very few guidelines in the European Union. The latest amendment of the Act at the end of 2020, on the other hand, is mainly based on decisions made by the EU Commission. Accordingly, the amendment aims above all to increase the promotion of the circular economy - i.e. the avoidance or recycling of waste.

As already mentioned, the construction sector has an important role to play here. In order to achieve the sub-goal of decoupling economic growth from resource consumption, German government procurement will have to make a greater contribution in the future. The basis for this is a new regulation in the Federal Climate Protection Act stating that climate-friendlier products and services are to be given preference. The amendment to the Closed Substance Cycle Waste Management Act even goes so far as to declare the use of resource-conserving services an obligation.

LINEAR ECONOMY VS. CIRCULAR ECONOMY

from raw material to disposal



Paragraph 2 of the new Article 45 KrWG stipulates that, when determining which service is to be procured, preference must be given to products that:

1. have been manufactured in production processes that conserve raw materials, save energy, save water, are low in pollutants or low in waste,
2. have been prepared for re-use or manufactured by recycling waste, in particular if recycled materials or renewable raw materials have been used
3. are characterised by durability, ease of repair, reusability and recyclability, or
4. lead to less waste or less polluting waste compared to other products or are more suitable for environmentally compatible waste management.

This means that this form of preference must be implemented as early as the planning stage. If such services are being considered, environmental criteria such as quality labels or environmental management systems must be applied in the award procedure. All in all, the protection of resources is given a much higher priority. The Federal Climate Protection Act (Klimaschutzgesetz – KSG) also stipulates that if there are several options, “in the planning, selection and implementation of investments and in procurement, in consideration of other relevant criteria related to the purpose of the investment, preference must be given to those with which the objective of reducing greenhouse gas emissions can be achieved at the lowest cost over the entire useful life of the capital good or procurement good” (Art. 13, section 2, clause 2 KSG). Life cycle costs must also be taken into account.

**YOU CANNOT
LOOK INTO THE FUTURE,
BUT YOU CAN LAY
THE FOUNDATIONS FOR IT –
FOR THE FUTURE
IS SOMETHING
WE CAN BUILD.**

ANTOINE DE SAINT-EXUPÉRY





SUSTAINABLE BUILDING WITH A VIEW TO THE LIFE CYCLE

Sustainable building means building for the future. However, those wanting to build sustainably must need to keep more than just ecological aspects in mind. It is not enough to construct buildings that conserve resources and protect the environment. It is equally important to create healthy and pleasant living and working space. After all, adults spend 80 to 90 percent of the day indoors⁴ – especially at home or at work⁵. Buildings represent a long-term investment. This socio-cultural approach focuses on building users and their needs. Equally, economic aspects must not be ignored – the costs of a building must be optimised over its entire life cycle. This interdependent system of ecological, economic and socio-cultural qualities has its origins in the forestry industry of the 18th century⁶ and manifests itself today in certification and evaluation systems for sustainable building.

So now, we can provide an answer to the question posed at the beginning of why a sports ground on a supermarket roof is sustainable. The story behind it goes like this: There was a building site in a residential area of the city of Erfurt – the choice was either a supermarket or a sports arena. Both were urgently needed. So the city decided to build both: a supermarket with a sports ground on the roof. In other words, a “mixed-use property”, one that combines different types of uses – in this case shopping and sports.



Mixed-use solutions are already widespread in the USA and Asia. In Germany, people are still reluctant to build such properties, as they are significantly more expensive than those with only one type of use. Additional challenges such as building regulations, safety aspects, lift systems or parking spaces and a lack of experience lead to significantly higher planning and development costs. Nevertheless: If building owners combine the different types of use intelligently, the higher costs are counterbalanced by higher long-term returns.

But back to the sports arena on the supermarket roof. The pillars of sustainable building discussed at the beginning can be easily illustrated here. In 2020, the city of Erfurt wanted to have the surface of the arena renewed. This included a running track with four lanes, a hockey field, two volleyball fields and other athletics facilities. To do the work, they commissioned the Bad Berleburg company **REGUPOL**. Many of products from this family enterprise are based on recycled and reprocessed polymer raw materials. The proportion of these raw materials in most **REGUPOL** products lies between 75 and 95 percent. **REGUPOL** products comply with all the criteria listed in the new paragraph 45 of the Federal German Government's Recycling Management Act.

This is also the case with the approximately 5,000 square metres of flooring the company used on the supermarket roof – on top of the existing and cleaned old synthetic surface, thus complying with the ecological and economic pillar of sustainable building. By building the sports arena and ensuring that district's residents don't have to do without either of these most pressing needs (sport and shopping), the Erfurt authorities have fulfilled the socio-cultural pillar.

An approach well worth imitating.

THE MOST IMPORTANT POINTS AT A GLANCE



The EU Commission introduces the European Green Deal at the end of 2019 – Most important goal – EU to be climate neutral from 2050.



Half of all greenhouse gas emissions come from raw material extraction and processing.



Part of the solution should be energy and resource-saving construction and renovation: In early 2020, the EU Commission presented and action plan for the circular economy.



Circular economy means: products should be used for longer and should also be easier to re-use, repair and recycle.



Binding minimum criteria and targets are to lead to more ecologically oriented public procurement.



The Closed Substance Cycle Waste Management Act and the Federal Climate Protection Act introduced obligatory regulations for sustainable public procurement practices (especially article 45 KrWG, section 2).



An interdependent system of ecological, economic and socio-cultural qualities manifests itself in certification and evaluation systems for sustainable building.



REGUPOL products comply with all the criteria listed in the new article 45 of the Federal German Government's Recycling Management Act (KrWG).

KEYWORDS

#GREENDEAL

#CLIMATEPROTECTION

#CIRCULARECONOMY

#CLOSED SUBSTANCECYCLEWASTE
MANAGEMENTACT

#ENVIRONMENTALCRITERIA

#RECYCLING

#SUSTAINABLEBUILDING

#SUSTAINABLESPORTSFACILITIES

#SUSTAINABLESPORTSHALLS

#SAVINGRESOURCES

#P2P

#PULASTICTOPULASTIC

#REGUPOL

#SIKA

¹ European Commission (2020, p. 3): Questions and Answers: A new Action Plan for the Circular Economy – For a cleaner and more competitive Europe. At: https://ec.europa.eu/commission/presscorner/detail/de/qanda_20_419 (accessed March 2021).

² European Commission (2020, p. 1): Questions and Answers: A new Action Plan for the Circular Economy – For a cleaner and more competitive Europe. At: https://ec.europa.eu/commission/presscorner/detail/de/qanda_20_419 (accessed March 2021).

³ Institute for Economics & Peace. Ecological Threat Register 2020: Understanding Ecological Threats, Resilience and Peace, Sydney, September 2020. At: <http://visionofhumanity.org/reports> (accessed March 2021).

⁴ Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (2020, 8 June): Indoor Air – What's the Problem? At: <https://www.bmu.de/themen/gesundheit-chemikalien/gesundheit/innenraumluf/innenraumluf-was-ist-das-problem> (retrieved March 2021).

⁵ Specht, F. (2021, 3 March): Home office: In February, every second person worked from home. Handelsblatt. At: <https://www.handelsblatt.com/politik/deutschland/corona-arbeitsschutz-im-februar-arbeitete-jeder-zweite-arbeitnehmerim-homeoffice/26968064.html?ticket=ST-11846508-IGcxbslso1ZpvysswKKv-ap3> (retrieved March 2021).

⁶ Dr. Löhnert, Günter (2021): Bewertungssystem Nachhaltiges Bauen. (Sustainable Building Rating System) Office and administration. Federal Ministry of Transport, Building and Urban Affairs. At: https://www.nachhaltigesbauen.de/fileadmin/pdf/veroeffentlichungen/Bewertungssystem_Nachhaltiges_Bauen.pdf (retrieved March 2021).



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