



The culture of conversion **The future of the building stock**

On the transformation of portfolio properties

Whitepaper – 10.2023

**Dr. Nicole Arnold**

Member of the Board
Commerz Real

Foreword

Dear Readers,

The real estate industry is facing major challenges when it comes to finding new approaches and creative solutions to transform its existing building stock. We in the industry must face these challenges together and develop a new culture of conversion together with investors, developers and architects, tenants, cities and municipalities. The redesign of existing properties offers an opportunity to adapt historically developed buildings and neighbourhoods to changing needs. Energy efficiency upgrades are of huge importance in this context as modernisation enables us to reduce energy consumption and reduce carbon emissions, thereby contributing to climate protection. However, conversion projects should also preserve the history and character of a property and offer added value to the urban district. After all, climate resilience and long-term use can only go hand in hand with viability and profitability if both current and future needs are taken into account.

In this whitepaper, industry experts provide insights into the world of conversion culture. On the basis of current conversion projects, we show which technologies and best practices can be used to successfully implement energy efficiency upgrades without losing sight of the preservation of cultural values.

I wish you much pleasure and inspiration while reading.

Yours, Dr. Nicole Arnold



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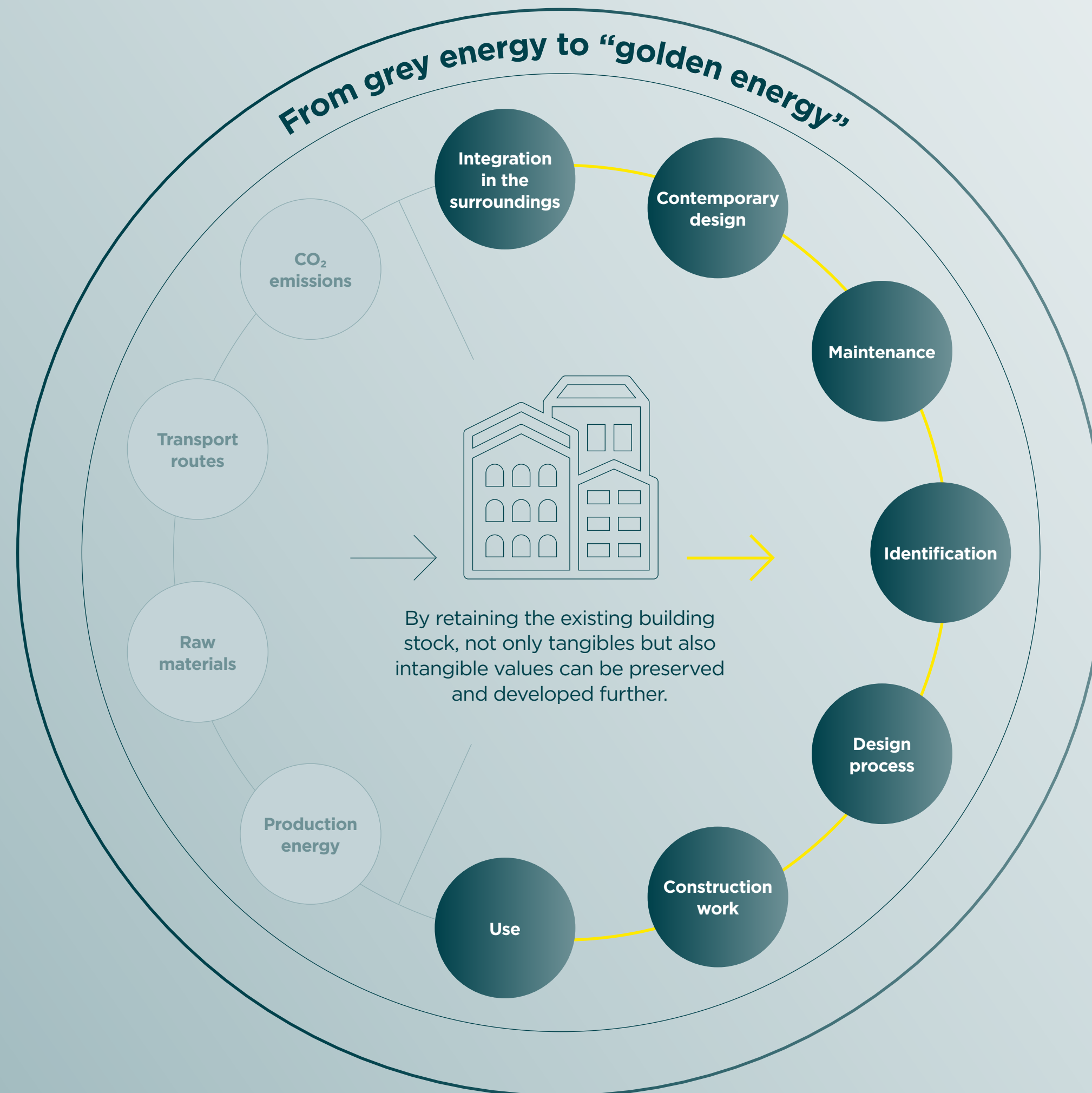


Nikolaus Bieber
Managing Director, Groß & Partner

A stocktake

What exactly does ‘conversion culture’ mean and how do experts define the most important parameters when dealing with portfolio properties?

Taking building stock into the future.



‘Conversion culture’ refers to the preservation and adaptation of existing building stock. In addition to modifying buildings, this also includes extensions or adding storeys. Through conservation, not only tangible but also intangible values are preserved and further developed.

From grey to gold

Conversion therefore goes beyond "green" ecological development, from grey energy to golden energy.

Our Head of Asset Management Jens Böhnlein defines the most important aspects of a successful conversion as follows: ‘Integrating the DNA of what is already there and enriching it with a new vision. Developing an understanding of the vicinity, implementing inclusive planning and a long-term orientation of the product, and public acceptance are key success factors for conversion.’ This can usually be implemented more quickly, as you are ‘already operating within the framework of an approved concept and have the opportunity to rethink what’s already there and convert it into concepts that can stand the test of time for many decades’.

A conversion may involve the repurposing of a building or its previous function may also be retained. For Mario Schüttauf, the most important thing is to ‘develop a holistic and long-term concept that responds to people’s current needs and is in harmony with environmental and cultural aspects while maintaining cost-effectiveness’.

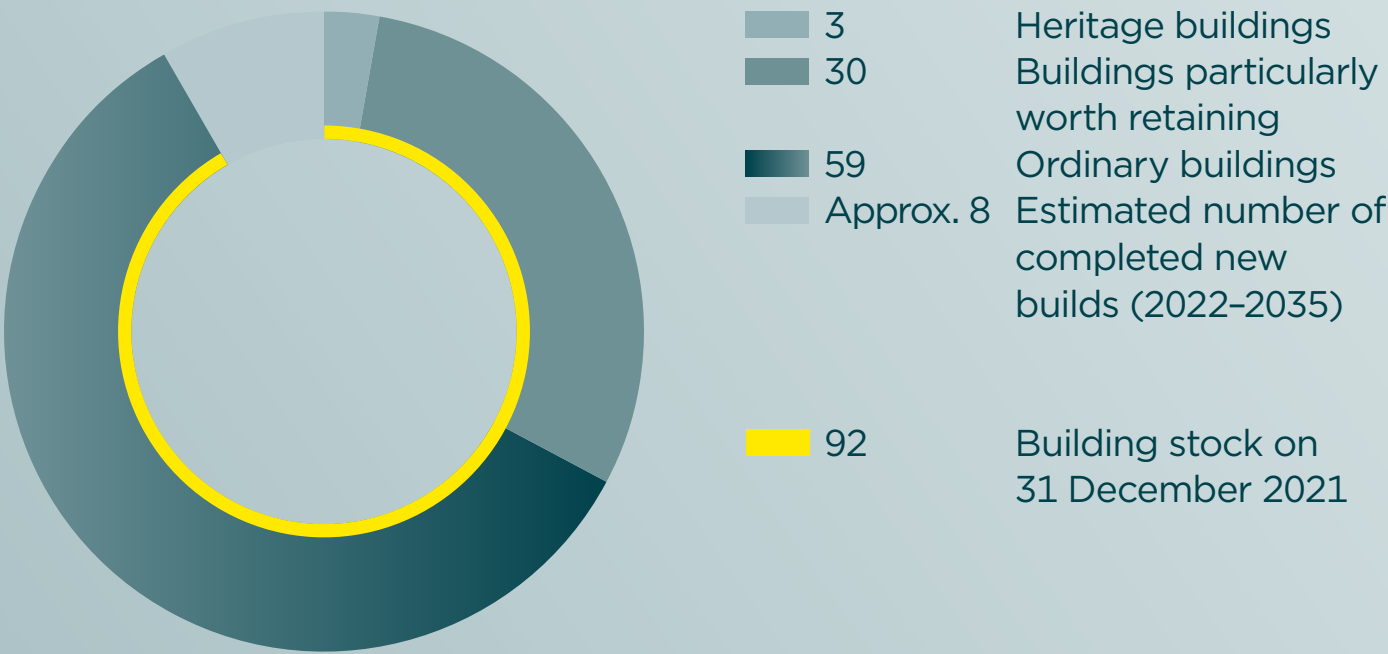
Andreas Rauch, our Head of Real Estate Development, sees conversion as a real opportunity: ‘It is down to us as asset managers to start implementing intelligent conversion concepts and make long-term plans for the building stock’.

Existing stock as value and opportunity for renewal

Germany's Bundesstiftung Baukultur visualises an estimate of the building stock up to 2035:

Estimate of the building stock up to 2035

in %



Source: Bundesstiftung Baukultur, Baukulturbericht Neue Umbaukultur 2022/23, February 2023



Portfolio properties make up the lion's share of all properties in Germany, accounting for well over 92%.

An industry undergoing conversion.

A plea by Sarah Dungs, Chair of the building redevelopment association Verband für Bauen im Bestand, about the current situation with regard to conversion culture and why the real estate industry urgently needs a rethink in order to achieve economic and environmental goals in the future.

Change the running system.

The German government's goal of reducing greenhouse gas emissions in a socially just, economically viable and effective manner over the long term is an ambitious one. The emission levels are immense in particular in the construction and real estate sectors, and urgently need to be reduced. Rather than demolishing buildings and erecting new ones, the priority is to upgrade and further develop the existing buildings. This reduces carbon emissions precisely where they occur. The problem is a familiar one, but our way of thinking, our decision premises and the applicable laws and regulations often make

demolition and rebuilding more profitable than working with the building stock.

But are these just the goals of the federal government or should we all be motivated to create a world worth living in for the current society and for future generations? Why is it seemingly so difficult to actually act sustainably? Is it because of the applicable laws and regulations? Or is it simply more profitable to build from scratch? These are the questions that we as a society and as players in the construction and real estate industries have to ask ourselves and cannot afford to dismiss lightly.



‘Anyone who thinks that climate change has nothing to do with the real estate industry needs to finally wake up.’

Sarah Dungs is Chair of the building redevelopment association Verband für Bauen im Bestand and Managing Director of the Greyfield Group

Preserving, reusing or rethinking what already exists.

The facts are clear and the path to climate neutrality is mapped out in Germany’s Climate Change Act (KSG). The German government has tightened the climate protection requirements and set a target of greenhouse gas neutrality by 2045. The goals are ambitious and seem unrealistic at first glance. Conversely, however, this means that all sectors must demonstrably reduce their carbon consumption, avoid further waste generation, conserve resources and prevent soil sealing. From a scientific point of view, the path to achieving these goals is simple.

We should pursue the following triad in all sectors:



1

The first step should be to preserve what is already there.

2

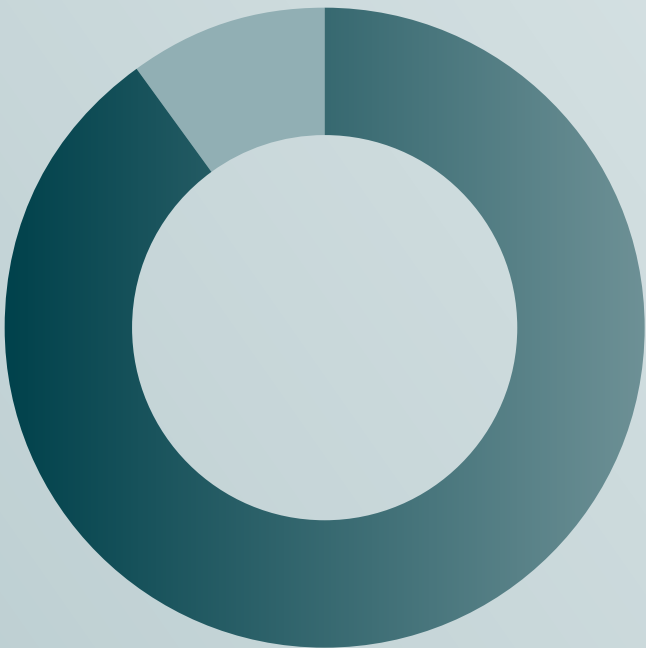
If this is not possible, we should try to reuse what we already have.

3

If that is not possible, we can recycle what we already have and rethink it.

Construction and building sector in Germany

Proportions of raw material consumption, waste volume and greenhouse gas emissions¹



90%

of raw materials

Used domestic extraction of other mineral resources



55%

of waste

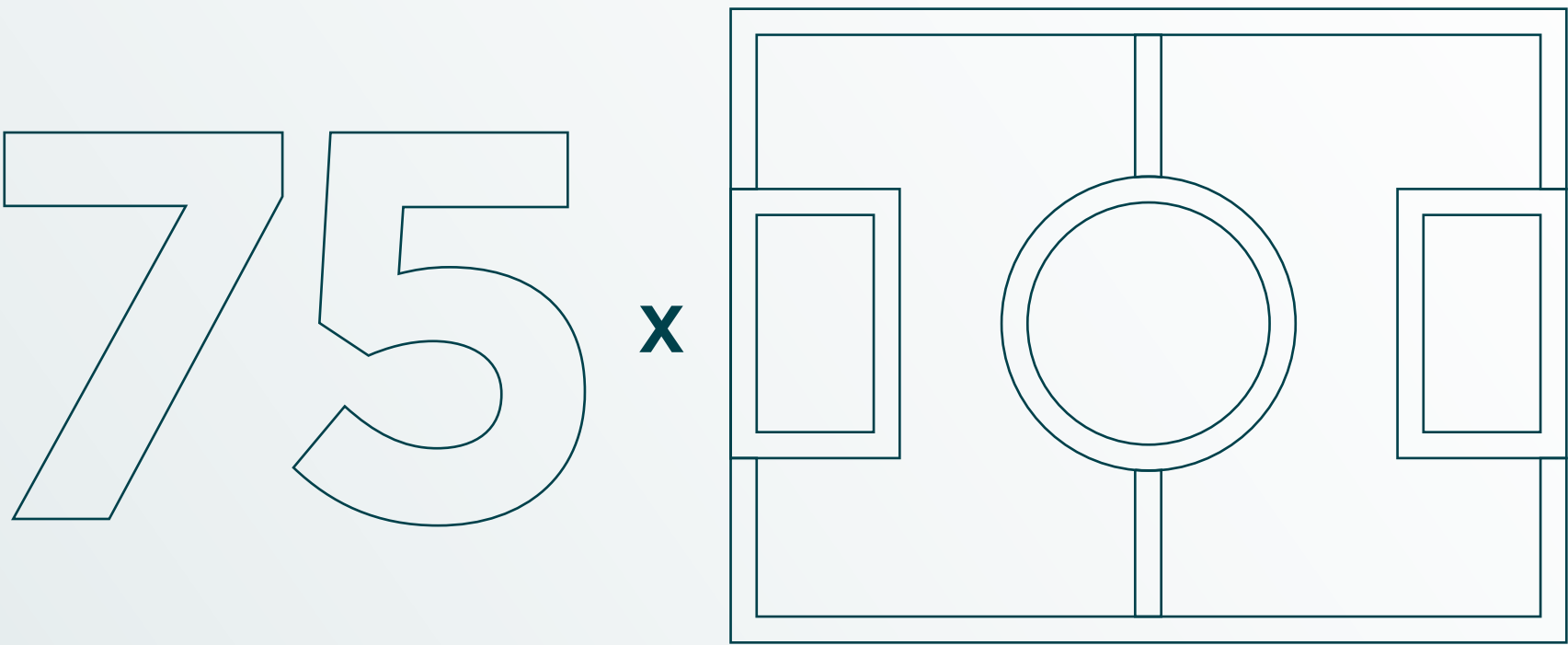
Construction and demolition waste



40%

of emissions

Greenhouse gas emissions from the construction, erection, modernisation, use and operation of buildings – not including demolition and the emissions of foreign suppliers



Soil surface newly sealed every day

Every day, 54 hectares of forest and agricultural land are converted into residential and traffic areas. That's the equivalent of 75 football pitches.²

The metrics show that the construction and real estate industries are lagging behind in terms of transformation. To date, the building sector has been responsible for 40% of global direct and indirect carbon emissions.¹

In addition, the building sector ties up about a third of the world's resources, mostly for the construction of new buildings. The building sector has to understand that it is responsible for 55% of the waste generated with construction and demolition materials. Conversely, these figures show that the building sector has the greatest potential for change – a huge lever that needs to be exploited.¹

¹ Source: BBSR 2020; dena 2021; Destatis 2022
² Source: Destatis 2021, UBA 2022, as at: November 2022/UEFA and FIFA, a football pitch is 0.714 ha in size

Case studies

We have put together three conversion projects, each of which addresses the topic of conversion culture in a different way and all of which show how to make ageing properties fit for a successful and climate-efficient future on the basis of creative ideas, clever (re-)use concepts and strong partnerships.

1 Amsterdam



2 Schäfergasse Frankfurt

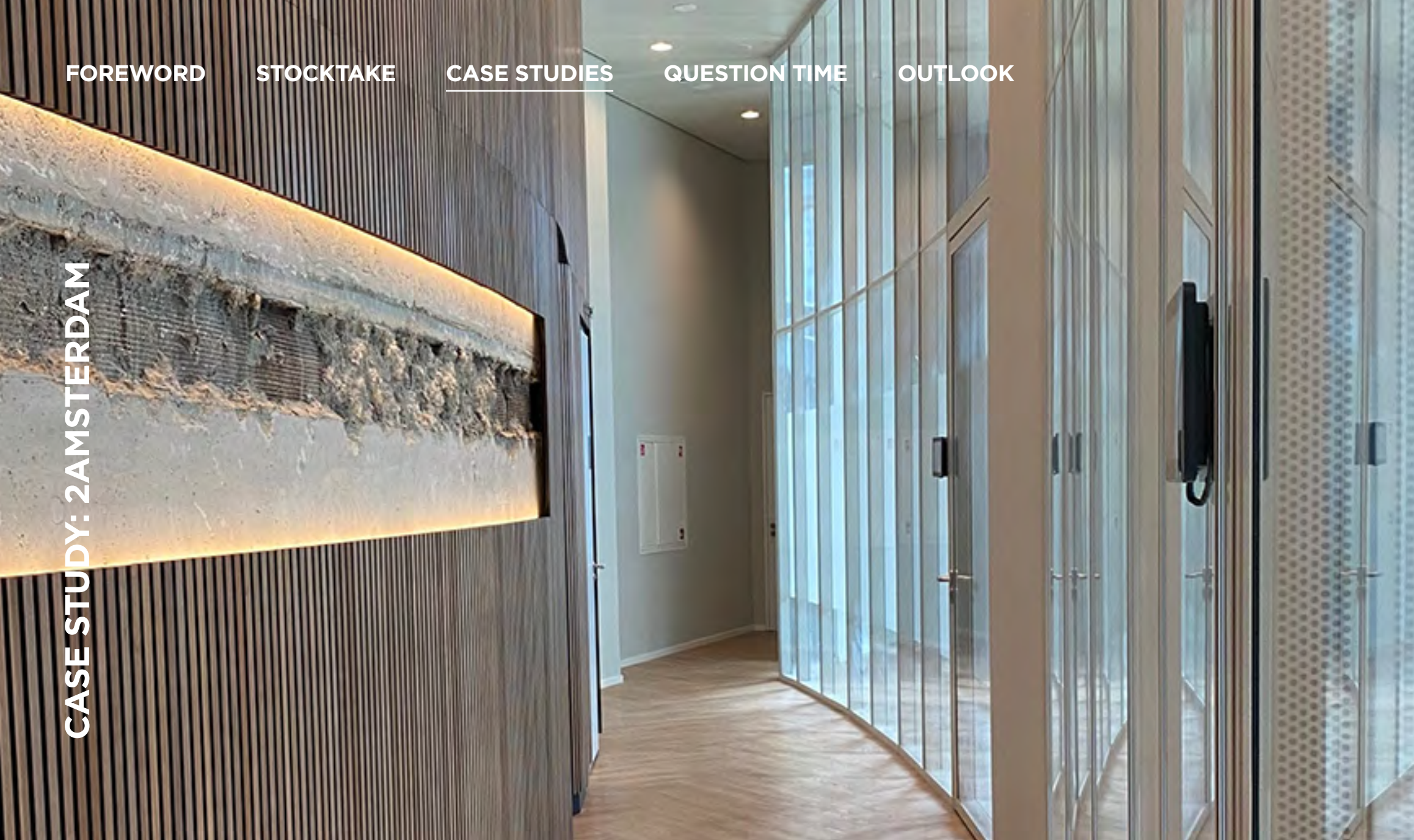


3 Tucherpark Munich



2Amsterdam

New Work with a panoramic view: an outdated office building in southern Amsterdam was transformed into a state-of-the-art, high-quality office/hotel complex that offers its tenants maximum comfort and top working conditions. With a sky bar open to the public, it has also become a meeting place for the entire business district.



An intelligent building that impresses with its smart grid technology. The repositioning takes into account the high demand for exclusive office space in Amsterdam. The hotel and the first sky bar in the Zuidas business district increased significantly the attractiveness.'

Martijn Houwen
Commerz Real



The hotel was built in such a way that it will be relatively easy to remodel in maybe 20 or 30 years. I think that enabling reuse in advance represents true sustainability.'

Jurten Thomas
Provast Project Director

Facts

Construction

1989 as the Twin Towers

Previous use

Purely office property

Conversion

From 2018

Completion

Hotel and multistorey car park at the end of 2020,
office tower in early 2021

Project developer

Provast

Architects

KCAP Architects & Planners

Realisation

J.P. van Eesteren

Challenge

The Twin Towers office building needed to be renovated in order to meet the latest ESG, New Work and design requirements.

Concept

Repositioning of the office tower as an multi-use property with high-quality office space and a hotel with the first sky bar in the business district, which offers a panoramic view of Amsterdam.

Conversion measures

The property’s existing structure was preserved and was integrated into the new build. The former AkzoNobel tower was converted into a hotel and made taller. The old Stibbe tower retained its office function and was increased to eleven floors. A new three-storey underground car park was built.

‘The property’s existing structure was preserved and was carefully integrated into the new build. What I particularly like is the fact that parts of the existing structure can still be seen in the building today, thereby also harking back to the past.’



Jens Böhnlein
Commerz Real

Schäfergasse Frankfurt

For greater social interaction: with the Schäfergasse project, vacant offices in Frankfurt city centre are being converted into social and affordable housing in cooperation with the city as the project sponsor and Caritasverband Frankfurt as the tenant. In addition, new advisory spaces are being created for Caritas, as well as an open cafe that will enrich the district culturally and be open to it.



I'm delighted that our consulting rooms and 66 affordable apartments are being built here as socially acceptable housing. A wonderful way of empowering people has been found here. Frankfurt needs new ideas. And this is one such idea.'

Gaby Hagmans

Board member, Caritasverband Frankfurt

For me, this is a particularly creative project because people being able to live in a dignified manner also makes it sustainable in the social sphere. For us, it's a showcase project for how participation in our society can succeed.'

Elke Voitl

Frankfurt city councillor



‘What makes the Schäfergasse project so special for me is that it’s about converting offices into social housing and therefore promoting humanity and togetherness while at the same time giving a property an energy upgrade, meaning it will be carbon-neutral and taxonomy-compliant in the future.’



Mario Schüttauf
Commerz Real

Challenge

The lease agreements with the office property tenants expired. Due to the building’s age and energy efficiency, an urgent upgrade was needed.

Concept

Creation of socially acceptable housing that has been given an energy efficiency upgrade in a central inner-city location, transforming a mediocre office property into a high-quality but low-priced residential property in a prime location in order to counter the tight Frankfurt rental market.

Conversion measures

Solar facade and photovoltaic system on the roof, air source heat pump, facade greening and a roof garden for a pleasant microclimate, energy consumption covered by own-generated renewable energies, integration of AI-assisted building optimisation, recyclable materials sourced during demolition are offered on a raw materials exchange.

Facts

Construction

1984

Current usage

Vacant office building

Conversion

Start of partial demolition from Q1/Q2, followed by conversion work

Completion

Planned for end of 2025

Project sponsor

Stadt Frankfurt (City of Frankfurt)

Tenant

Caritasverbund Frankfurt e.V.

Tucherpark Munich

A rediscovered district: Tucherpark is an island in the middle of the city that few Munich residents, if any, are aware of. Pioneering district development with a focus on ‘nature first’ is intended to open up the area to all strata of the population and breathe new life into it. Nature will act as a driving and unifying force that serves as a role model for ecologically, economically and socially sustainable project development.



‘We want to create space for living, residing and working in Tucherpark. We have named our vision Circular City and are therefore pursuing a comprehensive approach to urban planning. This means that we will continue to develop the existing buildings, paths and green spaces in a sustainable manner and construct new structures that are environmentally friendly and with future generations in mind.’

Henning Koch
Chief Executive Officer, Commerz Real

‘We were impressed by the preservation of the ensemble character, the consideration given to individual heritage pieces and the harmonious addition of new buildings. We welcome the planned improvement in greenery as well as the significant increase in size and permeability of the public green spaces.’

District Council
City of Munich

Facts

Construction

1967-1991,
refurbishment 2018/19

Current usage

Ten buildings with offices,
hotel, housing,
data centre and sports facility

Conversion

From 2024

Completion

Planned for 2028

Project developer

Hines

Challenge

Consideration of ensemble protection and, in some cases, heritage protection, a megaproject with a multitude of different stakeholders, intensive communication with politicians and interest groups, 140,000 m² of green space require careful measures that take nature into account.

Concept

Creation of an innovative city district that will act as a role model in terms of ESG, vibrancy, mix of uses and architecture, will have appeal beyond Munich’s borders and will continue to function in 30 years’ time. All this with a ‘nature first’ approach, with nature serving as a driving and unifying force.

Conversion measures

The new district is to feature housing for all strata of the population, including tenant groups, health services, sports and leisure facilities, art facilities, food services, offices, a new local public transport connection and a hotel integrated into the existing green spaces of Tucherpark.

‘Thanks to open and transparent communication between all the parties involved, a groundbreaking district development is being created in keeping with environmental, economic and social sustainability.’



Andreas Rauch
Commerz Real

Question time

We interviewed three industry experts, who shared their perspectives and valuable insights on the topic of conversion culture.

THREE QUESTIONS FOR

Emanuel Heisenberg

CEO and founder, ecoworks, Berlin

— What is serial refurbishment and what advantages does it offer compared to new builds?

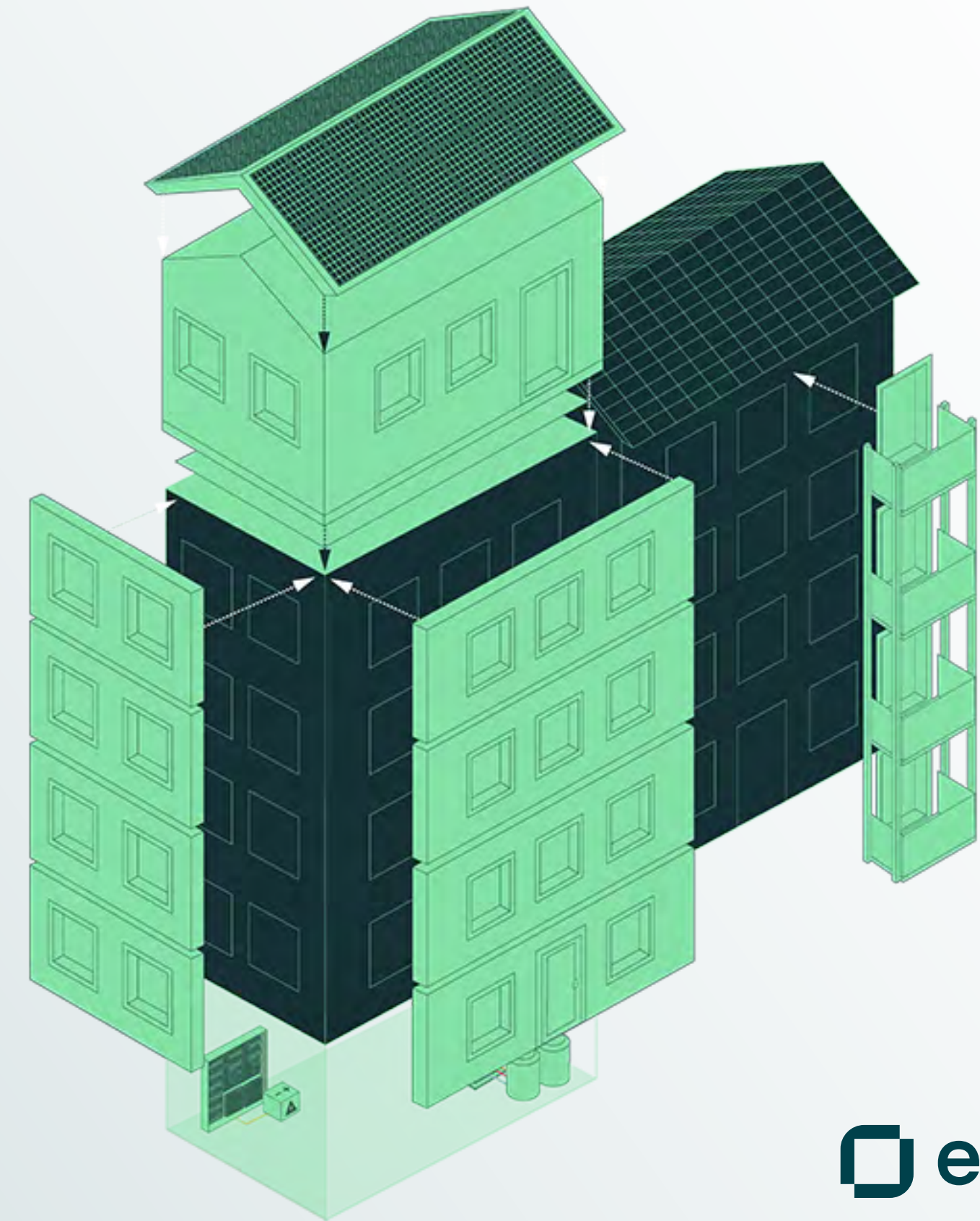
With serial refurbishment, up to 80 % of the work can be moved from the construction site to the factory, making it quick, efficient and – as the name says – serial. With modular hardware solutions, installation can be performed in next to no time. It's like a second skin being put around the house. Conventional refurbishment cannot deliver here in terms of speed and availability. There are simply not enough craftsmen.

— Where do you see opportunities for the future?

Around 45 million apartments in Europe can be found in buildings in the worst energy classes. In ten years' time, all residential buildings will have to be of at least energy efficiency class E in accordance with EU building regulations. In addition, 64 % of uninsulated old buildings in Germany need to be refurbished – and this needs to happen quickly. Our product and method will have a huge impact on all of these and the other important issues. So there are plenty of opportunities for the future.

— Where has the ball been dropped in recent years?

The refurbishment backlog is huge. Other methods should definitely have been established here sooner as development and scaling up naturally take time. Many buildings will soon no longer be usable, either by the portfolio holders or the tenants, and will end up as what are known as stranded assets if they are not refurbished. This is where we come in. The fact that fossil fuels were too cheap for a long time has, of course, contributed greatly to the fact that there have not been enough energy efficiency upgrades.



ecoworks develops end-to-end software and prefabricated elements to turn multi-occupancy buildings into attractive and climate-neutral housing in just a few weeks.

ecoworks.tech



THREE QUESTIONS FOR

Tim Janßen

Executive Director, Cradle to Cradle NGO, Berlin

— How do you see the topic of conversion culture in the context of a continuous circular economy?

From the perspective of the Cradle to Cradle approach, what matters the most is the use of recyclable and healthy building materials that are installed in such a way that they can be fully recovered and reused. Buildings should additionally have a use that goes above and beyond their function as a protective, working and living space, for example acting as air purifiers, energy generators or social spaces for people. There is also an urgent need for more affordable housing in Germany. And at the same time, we have vacant buildings everywhere. We have to make use of this building stock if we want to achieve a truly circular economy.

— What does this mean for you in terms of the building stock in Germany?

We continue to focus on energy efficiency upgrades. However, many of the insulation materials used are neither recyclable, nor healthy. They emit harmful gases, and this in turn produces greenhouse gases which are harmful to the environment. Here too, we need to rethink and bring the climate and resources together.

— Where do you see the challenges in terms of a continuous circular economy?

There needs to be a realisation at the political level that we also need a truly circular economy in the construction industry. Legal quality criteria are needed for permissible building materials. The same goes for financing – state subsidies and more favourable financing conditions are available for energy efficiency upgrades, but are not currently available for refurbishments oriented towards a truly circular economy.



CRADLE TO CRADLE
NGO

C2C NGO uses educational work, networking formats and the initiation of groundbreaking C2C transformation projects to enable organisations and individuals to rethink, transform and redirect, bringing together business, science, education, politics, culture and civil society.

c2c.ngo

THREE QUESTIONS FOR

Nikolaus Bieber

Managing Director, Groß & Partner, Frankfurt am Main



With a project portfolio of over 3.5 billion euros and a good 340 employees, Groß & Partner is one of the largest independent and owner-managed property developers in Germany. G&P focuses on properties, urban developments and green consulting that are as sustainable as possible.

gross-partner.de

— With your more than 30 years of market experience, what is your current view of the building stock?

The focus on portfolio properties is fundamental to meeting the global challenges of our time. Around 75% of the buildings in Germany do not comply with the energy requirements required to meet the Paris climate targets.

In other words, refurbishment is key to preserving their value from an economic perspective too. In addition, trends such as New Work are changing the demands placed on existing buildings, and new spatial planning and usage concepts are therefore required.

— In your opinion, what are the biggest challenges in the area of conversion?

The ESG regulations are becoming more and more stringent and require more effort and additional costs, especially for portfolio holders. At the same time, the valuation practices for portfolio properties need to be brought in line with the times. This requires reference projects that are created in accordance with new ESG criteria. The capital partners must also be willing to continue to finance and maintain the property portfolios.

— How can conversion culture be used to create sustainable and innovative solutions?

Building stock conservation is currently a hugely sustainable solution for reducing carbon emissions and giving buildings a new, appropriate use. We use it to transform old properties into properties with the highest energy standards. It is always a question of many innovative building blocks working together and of realising them in combination with a high level of design and architectural quality in order to create the greatest possible effect for a durable and ultra-modern property.

Outlook

The challenges are big. Initial approaches to solutions have been defined. Future-oriented reference projects are currently being implemented. But what happens next? Our experts venture a look ahead.



Mario Schüttauf is Managing Director of the Commerz Real Investmentgesellschaft



We obviously can't gaze into a crystal ball and predict exactly what the needs will be in 50 years' time. But a building should nevertheless be designed flexibly in order that future requirements can also be met.'

Combining the past and the future.



Building stock has value and we as a company and as asset managers need to think about how we can reduce our overall footprint. The mindful use of what we already have can make a major contribution here and also offers the potential for participation. In order for the building stock to experience further acceleration, the existing building fabric has to be valued differently financially. The emissions have already been emitted, but avoiding demolition results in a much more positive footprint, which could be offset with carbon emission credit.'

Jens Böhnlein

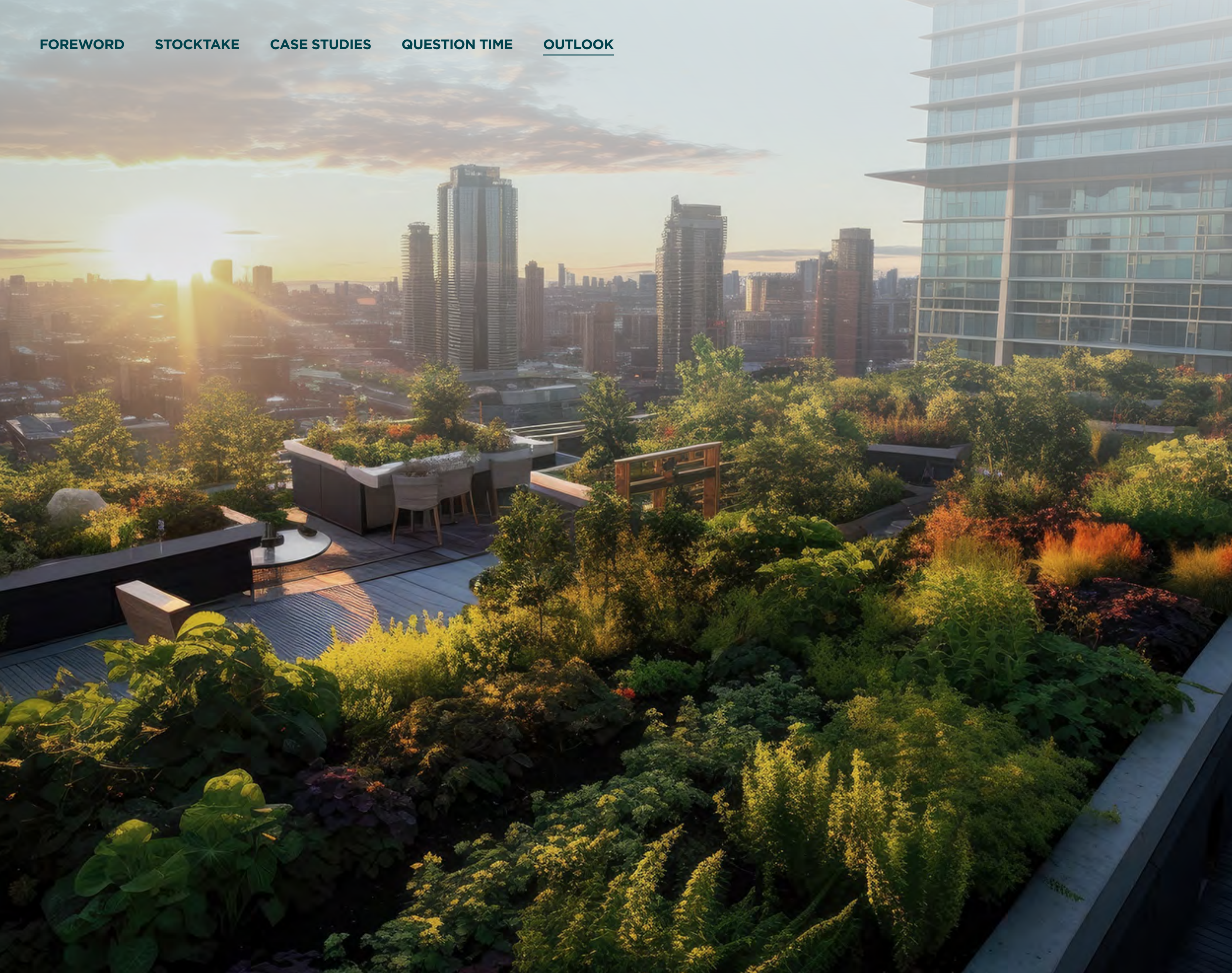
Global Head of Asset Management and Sustainability, Commerz Real

Environmental and climate protection are the most pressing issues of our time. With the draft version of its Climate Change Act (KSG), Germany has set itself the goal of reducing greenhouse gas emissions in a socially just, economically justifiable and effective manner in the long term (German federal government, 2023). This means the goal has been set for a long time and the path ahead for the building sector is clear. There are many challenges and excuses regarding building stock conservation that begin with “Yes, but ...” and often make new builds look more profitable. However, it is the responsibility of precisely these players in the construction and real estate industries and of the current society to create a world for future generations that remains viable and does not fail in the face of the challenges.'

Sarah Dungs

Chair of the Board, Verband für Bauen im Bestand and Managing Director, Greyfield Group





The vast majority of investors recognise the risk of stranded assets, i.e. properties that cannot be sold and cannot be refinanced due to sustainability aspects, being a driver of significant portfolio restructuring. With this in mind, 88 % of investors believe that the popular ‘manage to core’ approach, i.e. the targeted appreciation of properties, will be complemented in the future by sustainability aspects to create a ‘manage to green’ approach.

Around 220 investors who are active in the German property market were surveyed for the trend barometer on the real estate investment market:³

90%

of respondents consider a lack of experience with ESG strategies in real estate investments to be problematic

80%

are seeing purchase price markups for ESG-compliant properties

³ Source: Ernst & Young, Trend barometer on the real estate investment market 2022, January 2022



All I hear are “problems” and “yes, but” arguments. But if we don’t solve these problems as an industry, who will?’



Sarah Dungs is Chair of the building redevelopment association Verband für Bauen im Bestand and Managing Director of the Greyfield Group

[fuerbauenimbestand.de](https://www.fuerbauenimbestand.de)

Glossary

Conversion culture

‘Conversion culture’ stands for an understanding of building culture in which preservation and adaptation of the building stock plays a central role for architecture and urban planning.

ESG

ESG stands for ‘environmental, social and governance’, three sustainability-related areas of responsibility. ESG defines the framework and criteria according to which companies are assessed regarding their sustainable and ethical practices.

Climate resilience

Climate resilience describes the resilience of socio-ecological systems to the consequences of climate change. Given the long-term nature of the changes, this requires adaptation in order to preserve structures and functions as well as biodiversity.

EU Taxonomy

The EU Taxonomy is a science-based transparency tool for companies and investors. In the future, investors will be able to assume the same basis when investing in projects and economic activities that have a significant positive impact on the climate and environment.

Stranded assets

Stranded assets are generally understood to mean assets (e.g. buildings, shares in companies, technical equipment or (raw material) inventories) whose earning power or fair value unexpectedly decreases dramatically or which even become largely or completely worthless.

Cradle to cradle

This describes the principle of the material cycle in the building sector. For example, this means using building materials that are produced in an environmentally friendly manner and are reusable so that they can be used for a different purpose at the end of their life cycle.

Circular city

‘Circular city’ defines a city that comprehensively embraces the transition from the usual linear to a circular economy across all of its functions and in collaboration with its citizens, companies and key stakeholders. In contrast to the linear model, the circular economy pursues principles such as consumption reduction, repairability, use intensification, regeneration, reuse and durability – with the aim of decoupling value creation from the consumption of finite resources.



About us

WHAT SPURS US ON

We create sustainable living environments that inspire. Success through responsibility.

Commerz Real

Commerz Real is the Commerzbank Group’s asset manager for investments in tangible assets and has over 50 years of international market experience. More than 800 employees manage assets of around 34 billion euros at the headquarters in Wiesbaden and 17 other sites and subsidiaries in Germany and abroad. Commerz Real combines comprehensive asset management know-how and broad structuring expertise to create its characteristic range of tangible asset-oriented fund products and individual financing solutions. Our portfolio also includes entrepreneurial investments with investments in tangible assets in the key segments of real estate and renewable energies. In its role as the leasing service provider of the Commerzbank Group, Commerz Real also offers tailored equipment leasing concepts.

commerzreal.com

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